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## Original Articles.

### CHLORALOSE.*


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In 1896 I published[1] a "Clinical Note on the Action of Chloralose," referring to the sources of my information about it and detailing some clinical experiences. I referred to Dr. George William Balfour's favorable allusion to it in his book on the "Senile Heart," and to an unknown author who said of it: "Chloralose has all the advantages of chloral without its disadvantages." Another writer especially commended it in the treatment of insomnia of the insane. I also mentioned that it was so named by Richet and Hanriot, of Paris, and is said to be a combination of chloral and glucose—technically anhydro-gluco-chloral, chemically $C_8H_{11}Cl_3O_6$. It is described technically as a "hypnotic yet excitant of the spinal cord." Virgil Coblentz, in his "Newer Remedies," says it forms fine colorless needles, which melt at 180 to 186 C.—363.2 to 366.8 F.—soluble in 170 parts of cold water, readily so in alcohol. I have felt that the communication scarcely received the attention which the importance of the subject demanded, and I take advantage of the opportunity to bring it before the Section on Materia Medica, Pharmacy and Therapeutics, in the following short paper, in which I repeat much that I published before, but also add some additional observations, hoping thus to secure wider publication.

REPORT OF CASES.

CASE 1.—This was one of most obstinate insomnia, for which I had ineffectually used sulphonal, chloralamid, trional, and paraldehyde. I ordered for him 10 grains of chloralose at bedtime. The effect seemed magical. He went promptly to sleep and slept soundly until morning, awakening much refreshed, and without any of the unpleasant feeling so often consequent on remedies of this class. The dose was repeated the next night and the next with like effect. On the morning of the fourth day the patient informed me that he had gone through some strange performance during the night; that he had unconsciously removed all his clothing and found himself stark naked in the morning. This experience did not impress us seriously, and the drug was repeated the following night. During the night, his wife, who occupied an adjacent room, happened to enter his apartment and found him sitting on the edge of the bed, again entirely unclothed. She succeeded in getting him into bed, apparently without arousing him, and he awoke in the morning thoroughly ignorant of what had happened during the night.

CASE 2.—A hale and hearty medical gentleman of 80 years, but a confirmed insomniac, had tried every known remedy for sleeplessness, except morphin, and whenever a new one arose, his friends were apt to call his attention to it. Thus he learned of chloralose. It was recommended to him in 5-grain doses to be taken in a cachet. He had taken it two nights in succession with the most charming effect, and was delighted with it. The day preceding the next night was stormy, and he was not able to take his usual exercise out of doors. In the evening he ate rather too much of some favorite food, and hence had a little indigestion. At bedtime he took his 5-grain cachet of chloralose, but it produced no effect. Twelve o'clock came, but no sleep. He then took half of another cachet, which was also without effect. In a couple of hours he took the remaining half of the cachet. In the morning his wife found him asleep, breathing stertorously, and could not arouse him. She became alarmed and wired for her son. A little later he awoke, feeling very well and thoroughly unconscious of anything unnatural. His wife thought it best, however, to keep him in bed until we arrived, when we found him in his usual health and entirely unaware that anything unusual had occurred.

CASE 3.—This was that of another physician suffering with stubborn insomnia. Nothing but morphin could make him sleep. It was just after I had the first happy experience with the drug that this occurred, and I advised chloralose in 10-grain doses, recommending it confidently. It was some days before I heard from him, when early one morning in June, the physician's son called me up and begged me to come at once, saying that the medicine I had given his father had not agreed with him. On the way I learned that a dose of 10 grains of chloralose had been taken, and as there was no effect, the doctor, on his own responsibility, repeated the dose at the end of an hour. I had not advised a second dose. In a short time he fell asleep, and a little later began to be restless, and, still later, unmanageably violent. The family physician was called and it required all his strength to keep his friend and patient in bed. The struggle lasted from soon after midnight until I was sent for at daylight. During this time the patient had evacuated his bowels and bladder involuntarily. By the time I arrived he had fallen into a quiet sleep from which he was easily aroused. He recognized me at once, spoke intelligently and wondered why I had been sent for.

These cases were published in my first paper. To them I now add the following:

CASE 4.—I was asked by my friend, Dr. Githens, to see with him Master K., aged 9, who, succeeding an attack of influenza, had fallen into a state of great nervousness, which, perhaps, may be truly called actively choreic, that is, almost every voluntary muscle of the body appeared to be in motion—his hands, his legs, his head and neck were in constant motion. He would turn

* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. University Med. Mag., Dec., 1896.

from one side to another, rest there a few seconds, then turn on his face, and then around to his back, then on his face again, then would draw up his legs, extend them again, and so on without cessation. It had commenced twenty-four hours earlier, and though interrupted during a couple of hours of sleep, as soon as he awoke the motion again set in. All the simpler anodynes, except morphin, had been employed without effect. I advised 2 grains of choralose every hour. The very first dose quieted him, or at least diminished decidedly the activity of the movements. Three more doses were given, by which time he became perfectly quiet, went off to sleep and awoke completely recovered.

CASE 5.—R. W. was completely unnerved by the death of his wife, after a long and trying illness. Sleep was an impossibility, and the ordinary remedies were ineffectual. Five-grain doses of choralose were ordered, and one at night at bedtime produced a quieting effect.

CASE 6.—F. G., aged 40, was suffering from phthisis attended by a peculiar clonic and tonic spasm. He slept very little on account of the spasms, which were excited by the slightest touch. No hypnotic had any effect. Five-grain doses of chloralose were used, the effect lasting from fifteen to sixteen hours, and making him drowsy for several days.

CASE 7.—D. S., aged 49, was neurasthenic, with cardiac and gastric symptoms. Sleeplessness was very marked. Trional and sulphonal were of little use. Bromids and chloralose were good. He slept soundly after taking the latter, but often dreamed and started up suddenly in his sleep after taking the former.

CASE 8.—F. H. was a surgical patient, and a poor sleeper. Five grains of chloralose were given, and followed by delirium, violent spasms, pallor, cold clammy sweat, and an intermittent, weak pulse, while the temperature fell 1 degree. He had several attacks during the night, but slept soundly afterward. He remembered bad dreams, but nothing else. This was the only case in which the symptoms assumed at all an alarming character, and, as the report was made only by nurses and anxious relatives, it must be taken *cum grano salis*. The ultimate effect was sound sleep, and there were no unpleasant after-effects.

CASE 9.—This case was that of a patient admitted to the hospital of the University of Pennsylvania, for the morphin habit. The morphin had been gradually reduced and finally withdrawn. Insomnia remained, however, a prominent symptom. Five grains were administered the first night, without effect. On the second night, 5 grains were given and, being without effect, 5 grains additional at the end of two hours. The patient then fell asleep, and had a comfortable night. The next night the same course was pursued, with less satisfactory results, though the patient slept some. For some reason no further trial was made in this case.

### CONCLUSIONS.

The conclusions which I think are justified from the above cases are the following: 1. Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphin. 2. From a large experience with chloralose, I am satisfied that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. 3. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. 4. The drug needs to be further studied. 5. The maximum dose is 5 grains in a capsule, which may have to be repeated in not less than an hour; it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued.

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## POST-OPERATIVE NERVOUS PHENOMENA OR ARTIFICIAL MENOPAUSE.*

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The general practitioner has a world of patience with the nervous phenomena incident to the normal menopause, but little or none with the nervous phenomena of a precipitated menopause or that following the removal of the uterus or appendages at an early age. They have all patience with the hot and cold sensations, spinal and cerebral disturbances, local and general troubles so common at both normal and precipitated menopause. If the patients are active and pay but little attention to the uncomfortable sensations associated with the normal change, but little is done or advised.

If the change is stormy, patients are commonly freely medicated, often favoring the drug habit—acute and chronic inebriety—and more patients are lodged temporarily or permanently in asylums or rest-cures for the management of the normal menopause phenomena, than that from an artificial menopause.

Physicians commonly encourage their patients to persevere with treatment, saying that they have a long period of comfort and fine health before them when the change is well established.

Healthy environs, a strictly physiological life, favored by a non-stimulating and nutritious diet—avoidance of condiments—and an active out-of-door life, free from emotional disturbances, favor the best results.

The complaint is made by the general practitioners, that patients are returned to them after operation for the removal of bilateral tubal and ovarian disease or the extirpation of a diseased uterus, with peculiar nervous disturbances, are difficult to manage, and quite commonly carry on a correspondence with the operator about certain phenomena that do not disturb him in a normal menopause.

Unfortunately, but few of these patients are kept under treatment sufficiently long for permanent results after the operation. The operations are urged by all interested because the patients are acutely or chronically ill—suffering, anemic, and emaciated—many of them have lost thirty or forty pounds, locomotion is distressing or impossible, and relief from the operation is commonly rapid and pleasing. If every care is exercised in choice of diet, systematic rest and massage, they commonly recover the loss in a few months. The digestion improves, renal and vesical disturbances vanish, and alarming mental disturbances subside.

Unfortunately, these sufferers are systematically treated only for a period of three or four weeks, then they are hurriedly returned, sometimes to their uncomfortable homes, where everything is unfavorable to a favorable convalescence. Many operators favor an early rising and an early discharge, and boast of sending their patients home in two or three weeks. The practice favors post-operative sequelæ and a tedious convalescence.. By so doing they lose the opportunity of demonstrating what the rest-cure or treatment will do for a class of patients that need it most. Married

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women are expected, by their husbands and friends, to return to their homes and resume domestic duties; rarely are they sent to health resorts.

Nothing has been more pleasing in my own work than the general improvement of feeble and emaciated patients after complicated sections: they eat and sleep well, are bright and cheerful, all their uncomfortable symptoms vanish, they recover flesh and color rapidly, and are always grateful for the systematic rest and rubbing they receive.

Every nurse is taught massage by a professional teacher, and practices it throughout her stay in the hospital. Every charity patient receives precisely the same care. Systematic rubbing and massage, and the diet-kitchens and training of hospitals have done much to rapidly advance the professional nurse—as yet the diet-kitchen in hospitals is not the special department it should be. Sick people commonly need something better in the shape of a cook than they have in their own kitchens. It is natural that we should look for it in our nurses. If the same care were taken in the preparation of the diet in hospitals, that is required in the preparation for the operations and all dressings, results would all improve. Many of the trays you see passed about the hospitals should go directly to a swinery. Many of the supervising nurses and matrons know little about diet, and some do not know the simple ingredients of a loaf of bread.

In my specialty for speedy, good results, I would urge prolonged rest-treatment after serious operations. I am satisfied that thrice better results can be obtained by turning the patient over, three or four days after the operation, to a good clinician—one who is interested in diet and systematic rest-treatment.

The time and opportunity is commonly lost for the correction of many disturbances amenable to early therapeutics. This Section should correct greatly the common, careless practices of specialists and the medical and surgical departments of hospitals and nurses' schools.

At the normal menopause sufferers commonly feel that the phenomenon is naturally a part of their experience, and accept all sorts of counsel, neglecting serious troubles until it is too late for good results, or they are overtreated or overmedicated into distressing drug habits. In the premature menopause the clinician is annoyed that the phenomenon should occur—he demands freedom from everything, and cures.

## SYPHILIS AS A NON-VENEREAL DISEASE.

### WITH A PLEA FOR THE LEGAL CONTROL OF SYPHILIS.*

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Syphilis is a great disease, which has ravished the world for centuries, and has counted its victims by tens and hundreds of thousands. It is a contagious disease, always communicated from one individual to another by direct or indirect means—or transmitted through inheritance—and yet, to-day, there is scarcely any restraint placed upon its continued spread by individual propagation, over the whole world.

Advancing civilization has recognized one after another of the contagious or infectious maladies which afflict mankind, and the arm of the law has come in to protect the defenseless, and we no longer have the wholesale sweep of epidemics which occurred before health boards were organized and given control of these matters. This is often accomplished at the sacrifice of the comfort and, it would often seem, the rights of individuals; but the principle of the "greatest good for the greatest number" prevails, and those who unhappily may become afflicted with any of the maladies coming under the jurisdiction of the health boards are often obliged to sacrifice all personal interest for the benefit of those around them.

Why is it that syphilis, which has always been recognized as an intensely contagious disease, in certain of its stages and manifestations, has, to such a great extent, been allowed to pursue its unbridled course, attacking alike the innocent, as well as those guilty of sexual transgression? Why is it that thousands, yes hundreds of thousands of innocent and trusting wives, and helpless and blameless children have had to suffer for the sins of others? Why is it that syphilis has thus been allowed to spread its ravages unchecked by the hand of advancing science and broad philanthropy?

I need not answer these questions, for I am convinced that all of my hearers know full well the reason. But, thanks to the light of accumulated knowledge and experience, the shame which has too often checked discussions of the subject, and hampered the efforts of many who, from time to time, in various countries, have tried to stem the tide of this disease, need no longer have an influence. I hope to give you facts and show you reasons which will make every one present feel and know that the disease (syphilis) should and must now have a check put upon its ravages—and my plea will rest, as the title of my paper indicates, upon the vast "army of innocents" who plead for protection from a disease which may attack them when least expected, and may often extend its malign effects through years, and even to succeeding generations.

It is not a little interesting to note that when the disease burst out with such frightful severity in the years 1494 and 1495, at a date closely following the discovery of America, and about the time of the invasion of Italy by Charles VIII of France, it was not by any means considered as a venereal affection, but spread so greatly among families and in neighborhoods that it was regarded as a form of plague; many laws were therefore enacted for the protection of the community against what was considered as a new disease which had appeared among them. Also later, even in the sixteenth and seventeenth centuries, we find laws regarding those afflicted with syphilis, prohibiting them from the use of public baths, and even preventing them from coming into general assemblies, etc., and some of the measures taken to hinder the spread of the disease were harsh in the extreme.

I will not attempt, in any way, to go into the legal aspect of the case, either historically or practically, for time and space would fail me on an occasion like this; legal action will follow when once the public is convinced that there is a danger which can be thus avoided.

Mention was made of legal restrictions of the disease exercised long ago, in order to call attention to the fact that when syphilis was regarded as a general malady, not necessarily connected with the sexual act, there was great attention paid to its control; but now, in later years, since it has been regarded more and more as a venereal disease, it has been ignored and left to pursue its destructive way unchecked by sanitary control. The

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height of the folly culminated in the silly agitation in England which terminated in 1881, with the repeal of the "Contagious Diseases Acts," which had wrought such beneficent results from 1864 till 1881, as English doctors at that time testified, and as every medical man knows.

As already intimated, the pendulum of knowledge has swung the other way, and during the last twenty-five years or so, a mass of facts has been steadily accumulating, which again calls attention to the aspect of the innocent infection by syphilis, and which demands that the thoughts of those who make laws for the protection of the public shall be again turned to the disease. The data referring to this "Syphilis in the Innocent," the present writer has been collecting for the past ten years, and has recently embodied in a volume,[1] to which further reference will be made in our discussion of the subject.

The basis of our present argument is as follows: as long as syphilis is regarded exclusively as a venereal disease, it is and will be extremely difficult to obtain adequate legislation for its control; whereas, if it can be shown to be one from which the general and innocent public should be protected, there will be little difficulty in meeting and solving the question; it is the hope of the writer that the present paper, with the discussion which may follow, will be the means of such agitation as will result in the ultimate adoption of laws which will in a measure control syphilis in this country.

In order, therefore, to properly understand and appreciate the task before us, it will be necessary to enter into some details in regard to the present extent of syphilis, its modes of propagation in times past, including many episodes which were called epidemics, on account of the large numbers innocently affected in a brief period, and finally to the modes of propagation of the disease in late years, by other than unlawful venereal acts. These matters I will endeavor to present as concisely as possible.

### WORLD-WIDE DISTRIBUTION OF SYPHILIS.

A word first in regard to the general distribution of syphilis in the world.

Many have written from time to time as to the antiquity of syphilis as a disease, even from the most ancient times, and bones exhumed here and there have seemed to show that it has prevailed for ages, as also records in Chinese literature point back to its existence at least 2000 years B. C. But for practical purposes most studies of syphilis go back only four hundred years to the period mentioned, 1494 and 1495, and as all know, it was charged that the followers of Columbus brought the disease to Europe from the western lands. Since 1494, the disease has spread, apparently *de novo*, until now, according to the best writers, there is hardly a portion of the inhabited globe where it does not exist with more or less virulence. It is stated that in Russia at least one-quarter of the inhabitants in some villages are infected, and all writers agree that there it is mostly spread in an innocent manner, mainly in family life, as will be mentioned later, for prostitution is almost unknown in the villages.

In Great Britain and Ireland it prevails widely in the great cities and ports, favored by the neglect of all restrictions on prostitution. Dr. Holland in 1854 estimated that in the United Kingdom there were at least a million and a half persons infected with syphilis each year.

Japan and China are so full of it that Dr. Eldridge states that it is very exceptional to meet a male Japanese who will not acknowledge that at some time he has had syphilis, and in the French Hospital at Tien-Tsin, China, almost 30 per cent. of all cases were of this disease.

Time fails even to touch on its prevalence in various other countries, but as stated before, syphilis exists almost universally, and, according to the best authorities it is steadily on the increase.

There are no data to determine the extent of its prevalence in the United States, but any one familiar with dispensary and hospital work here will vouch for the very great amount of it seen in daily life. The statistics collected by the American Dermatological Association, relating to some 300,000 cases of skin disease, give a percentage of 11.5 due to syphilis. Some years ago Dr. Sturgis collected the returns from the public institutions in New York City, and estimated that the numbers newly infected there with syphilis could not be far from 50,000 each year.

In the earlier history of medicine, in the sixteenth century, and later, there occurred, as already alluded to, such sudden spreadings of syphilis on certain occasions that the name epidemic has been rightly given to them. The earliest of these epidemics of which we have a good account occurred in the town of Brunn, in Moravia, where there were 180 directly infected in the town and others in outlying districts. The infection took place by means of cupping and blood letting as practiced by the public town barber, and no mention is made of its conveyance by venereal acts. These epidemics of syphilis I tabulated, from literature, collecting 110 of them, with a total number of considerably over three thousand victims. This is quite exclusive of those episodes where it is stated that there were "a large number infected." Included among the causes as a means of conveyance of the poison in these sad occurrences may be mentioned nursing, hand raising of infants, domestic transmission by household utensils, kissing, breast-drawing, accouchement, also by cupping, blood-letting, circumcision, vaccination, tatooing, glass-blowing, the application of the tongue to the eye to remove foreign bodies, catheterizing the Eustachian tube, etc.; and even as late as 1892 no less than twenty-seven cases of infection of this nature were reported by one physician, and, in Paris, in 1870, there were over seventy reported where the poison was conveyed to the Eustachian tube accidentally by one practitioner, in the treatment of diseases of the ear—this resulted from gross carelessness on the part of the physician.

Time would fail me even to hint at the mass of material which has been brought to light in regard to the modes and methods by which syphilis has been innocently given to individuals, even up to the present time, and often in spite of great care being exercised.

The three great classes or divisions of the subject to which I wish briefly to call your attention are: 1, marital syphilis; 2, hereditary syphilis; 3, extragenital, innocent syphilis.

### MARITAL SYPHILIS.

The subject of marital syphilis has been very fully discussed by a number of writers, and all acquainted with the subject know well that this mode of infection stands prominent in connection with the innocent acquiring of the disease. While men occasionally contract

1. Bulkley: Syphilis in the Innocent (syphilis insontium) Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. New York: Bailey & Fairchild. 1894.

syphilis innocently in lawful wedlock, even indeed from wives who have acquired it in nursing a syphilitic child, or in some other innocent manner, it is principally the wives who suffer, from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of "innocent syphilis."

Fournier, of Paris, recently made some studies from the cases of syphilis coming to him in private practice. He found that fully 25 per cent. of all females whom he had seen in private practice had contracted the disease innocently and undeservedly, and in the discussion of his paper, Ricord thought that that proportion was too low. Of the married females in Fournier's practice, he found that in 75 per cent. of the cases the disease was unmistakably traced to the husband.

In my own private practice I found that in fully 50 per cent. of the females, the disease was acquired in a perfectly innocent manner, while among the married females the percentage of innocent infections would be 85 per cent., or more.

Surely, then, there is reason in the plea that something should be done to prevent the wholesale infection of these innocent victims of marital syphilis. But if this aspect of the subject is dark, that of hereditary syphilis is yet darker, and calls even more strongly for relief.

### HEREDITARY SYPHILIS.

The literature of hereditary syphilis is very large and the facts related to it are well known to the profession. Time and space will allow of but the briefest mention. We may for a moment first refer to the effect of the poison upon the viability of children born of syphilitic parents. I can not do better than to refer to some very striking tables given by Sturgis in an appendix to Diday's work on infantile syphilis. They are from the records of births of syphilitic children at the Moscow Hospital, Russia, from 1860 till 1870. During these years there were 2002 such births, and 1425 deaths; that is, 71 per cent. of the children born there of syphilitic parents died. Other writers are in accord as to the very great death-rate among those born of syphilitic parents.

It is to be remembered also that syphilis is the cause of innumerable abortions, and also produces sterility, both in the male and female. If, therefore, the effects of syphilis were limited solely to destruction of life in the new-born, or in the products of conception, there would be a strong reason for the introduction of measures to check the spread of the disease, from its loss of life to the state. But this is only a portion of the ills wrought by syphilis in connection with generation, and it would be better that children of syphilitic parents should thus fail of life, rather than be born with an inheritance which often proves such a curse.

Tarnowsky has recently given us some interesting facts which could easily be more or less paralleled from others. In three families, born of syphilitic parents, there was a total of 22 births; of these there came only *one* healthy adult person. Of 13 who survived some years, 8 were incapable of self-support, from mental or physical defects, and the other 5 were weak, nervous and totally unfit for further procreation. He states that the families in which this occurred belonged to the intelligent class of society, with no other cause than syphilis for these disastrous results. He quotes further, from Tschistiakow, the case of a man who had severe syphilis in early life, destroying the palate, of whose 9 children, 2 were idiots, 1 was deaf and dumb, and 1 died in infancy. The works of Hutchinson and many others give abundant testimony as to the direful effects of syphilis on the progeny of those thus affected.

Thus the army of innocents swells in size, and pleads for the restriction of a disease, which it is now believed, may sometimes be inherited even to the third generation. What the later effects of syphilis may be in producing some of the conditions commonly known as scrofula, and in inducing race-degeneration, can not now be answered positively. We know, however, that it has at times decimated our American Indian tribes, and has wrought unspeakable havoc in Russia, in the Hawaiian Islands, and elsewhere.

### EXTRAGENITAL SYPHILIS.

The third division of our subject, namely, extragenital infection, or syphilis acquired quite apart from any sexual relations, is one of the most interesting lines of investigation possible, and has been illustrated by thousands of recorded cases, reported by many hundreds of observers. I may remark that nearly 200 cases of this kind have fallen under my own personal observation and care.

Time and space again forbid our more than lightly touching upon a few of the outside facts relating to this branch of our subject, but a slight classification of the facts may help us to a better understanding of the vastness of the subject, and its very, or most, important bearings upon the health of the community, and the dangers from syphilis.

### ACQUIREMENT OF SYPHILIS.

The cases referring to the different methods of acquiring syphilis accidentally, apart from sexual life, as actually observed at the present time by every one who has opportunities and experience in this line, may be grouped under three main catalogues: 1. Those relating to domestic and industrial life. 2. Those relating to the nourishment and care of children. 3. Those relating to professional pursuits in the care of the sick.

Under the first class we find the instances of transmission finally classified into almost fifty groups, relating to the most different phases and aspects of domestic and social life. Not only has syphilis actually been given by spoons, knives, forks, cups, glasses and jugs, but it also has been communicated by tobacco pipes, cigars, cigarettes and even by troches or candy passed from mouth to mouth; also by shirts, drawers, masks, plasters, bandages, lint, towels, sponges, combs, tooth-brushes, syringes, sick-chairs, etc. Among those who have acquired it in industrial life, that is, innocently in connection with their occupation, we may mention glass-blowers, assayers, weavers, musicians, conductors (by whistles), servants, cooks, furriers, upholsterers, shoemakers, and others.

The second class, representing syphilis acquired through the nutrition or care of children, includes literally thousands of cases where the disease has been innocently acquired by suckling syphilitic children at the breast, and innumerable cases where the nurses and attendants have acquired it by contact with the syphilitic secretions of infants and where diseased children have communicated the disease to each other.

In the third class, relating to professional body service, in connection with the care of the sick, we find three divisions: 1, where the operator is the victim; 2, where the operator is the syphilifer, or gives it from himself to a patient; and 3, where the operator is the medium of conveying the disease from one patient to another.

Under the first class we find hundreds of cases where physicians, surgeons, and midwives have become infected in the practice of their calling. Large numbers of cases are on record where breast-drawers and wound-suckers have acquired the disease.

In the second class we find many records of those who have had syphilis giving the disease to others by body service, as in breast-drawing, tatooing, circumcision, vaccination, etc.

In the third class the operator acts as a medium, conveying the poison from one patient to another. Here we find a sad array of cases of infection by skin-grafting, vaccination, through dental instruments, by wet-cupping, tatooing, the use of the Eustachian catheter, etc.

### LEGAL CONTROL OF SYPHILIS.

I have thus hurriedly, and necessarily very briefly, run over a few of the points relating to our subject, illustrating the propriety of my "plea for the legal control of syphilis based on its frequency in the innocent"—the details necessary to a full understanding of it would take many, many pages and occupy as many hours. I beg now to present a brief argument for and a statement of the method and mode of the legal control of syphilis which I think is feasible at the present time.

From what has preceded it is readily understood that syphilis is a disease which inflicts great injury upon the public health; for it imperils not only those who have been guilty of sexual transgressions, but also those who are quite innocent, and it is upon the basis of protection for the latter that I believe legal action should be taken.

While syphilis occurs most frequently as a "venereal disease," its prophylaxis or legal restraint by no means relates to the restriction of venereal diseases; the limitation of the spread of syphilis should be considered from a much broader and higher standpoint, namely, from that of defending the public health and that of individuals against a malady which affects the innocent and guilty alike, and which comes to the innocent not only when its dangers are anticipated, but also when they are least suspected.

In the matter of legal protection against syphilis, therefore, the subject of prostitution becomes a secondary consideration. The question is not one of "regulating prostitution," or of inspecting, licensing, or legalizing the "social evil," or of protecting those engaged in it. We approach it from a higher ground, and seek to have some restriction put on a disease which is dangerous and communicable, and which might at any time attack any one in a wholly innocent and unexpected manner. That the spread of syphilis can be checked is self-evident, as has been conclusively proved by the fact that all the epidemics to which reference has been made were averted when the cause was recognized and sufficient measures introduced to prevent the further transference of the poison from one person to another. It is also abundantly shown in certain instances where foreign governments have in some places enforced stringent measures looking in this direction.

We know positively that the poison does not and can not develop *de novo,* but that it is always communicated from one individual to another. We know also that within a certain period syphilis ceases to be contagious in each individual; so that if no new infection is introduced into a community, and the members of that community are guarded against acquiring the disease from one already infected until that safe period is reached, the malady will cease to exist.

Such precautions are exercised both by the public and by individuals against other contagious diseases, such as smallpox, scarlatina, measles, diphtheria, yellow fever, etc.; is it not eminently proper that syphilis should be placed in the same category, and protection should be afforded to the innocent against it? Syphilis counts its victims, guilty and innocent, by thousands where other diseases count hundreds. More deaths are ultimately caused by syphilis than by smallpox, while the injury to health, and interference with life work is infinitely greater in the former than in the latter. The conclusion is absolute: syphilis should be placed, like other contagious diseases, under the control of the health authorities.

In this country, as far as known, there have never been any sanitary safeguards against the spread of syphilis, and there are very few hospital advantages for those thus affected. In most cities in Europe, there are large accommodations for this class of patients, amounting in Paris to between one and two thousand beds. New York has but a relatively small service at the City Hospital, while the vast majority of syphilitic patients are treated at the dispensaries, and are allowed to go about, often in an extremely contagious condition. It would be difficult to convey an idea of the carelessness and indifference of some of these patients when informed of the dangers to others from their disease. Many, indeed, by far the larger share of them, disappear from treatment long before their syphilis is cured; and generally, even while they are in the contagious stage of their disease.

The republican ideas of this country would probably not endorse or submit to such sanitary police inspection and restraint as is exercised in many places in Europe; but the question naturally arises: Is there not some way in which the end can be reached of arresting the spread of this dangerous disease? Can there be no safeguards thrown out which shall prevent its extension here as it has spread in certain countries in Europe, such as Russia, where whole communities have been syphilized, and Portugal and Japan, where the disease is well-nigh universal?

The first step toward accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers; indeed, the wonder is that it has not been so placed long ago.

If syphilis were first recognized as one of the great contagious diseases, against which it is the duty of the government to protect the community, the details of that protection would follow with time, as they have in regard to other contagious diseases; as the public became aware of the dangers arising from syphilis, and the benefits accruing from its restriction, there would be no difficulty in securing proper laws relating to the subject.

The suggestion, therefore, is most earnestly put forward that the time has certainly come when the dangers of syphilis, and especially the dangers to innocent persons should be fully and fairly recognized and met. It is too late in the history of science and of humanity to stigmatize the disease as "venereal," and on that account to withhold scientific protection from thousands of innocent sufferers. Among babies, nursing women, persons infected in dental and surgical operations, and in dozens of other innocent manners, syphilis can no more be described as venereal than can any other contagious disease. The time has come to place it under the control of the proper health officers, and to make it quite as *criminal to transmit syphilis wittingly,* as it is to com-

municate smallpox, scarlatina or diphtheria. It is believed that if only syphilis can be included on the list of contagious diseases which the health boards can control, proper legislation will follow slowly as the profession and public become more enlightened as to the real nature of syphilis and the real danger of the public from it.

4 East Thirty-seventh Street.

DISCUSSION.

DR. C. W. ALLEN, New York City—The subject is of deep interest and I have been very much gratified in listening to the presentation of this paper with its interesting statistics. Dr. Bulkley and I took part in a discussion almost ten years ago, before the Academy (New York). At that time I made certain suggestions, one of which was that we should begin by treating syphilis as a nonvenereal disease—not treating it medically in that sense, I mean, but in our discussions, in our writings; dropping the sexual view of it and treating it more so the public could come to learn what an important condition it presents as a family disease. I also advocated at that time, as one of the measures which might be carried out until others could be introduced, a certain authority to be exercized over those who sought admission to the public hospitals, having the disease in its contagious stage. Some authority should be vested in the institutions so that they could retain such cases until they are no longer sources of danger to the community at large. In a very large dispensary practice, where there are many foreigners recently arrived in this country and a great many Russians, I see so much of the family aspect of syphilis, the non-sexual kind, that I think I am safe in saying that two-thirds, and possibly more, of the cases I see have no immediate relation to the sexual act. I am continually seeing children, not only one, but two and as many as three in a family, all suffering from early syphilis, and I am unable to trace it to any source. The mother who comes with the children is healthy as far as examination goes; the father, I am usually unable to see, but as far as his history goes he is healthy and has been so. One of the last cases I saw before I came here was an instance of most aggravated chancre of the lower eyelid, producing a tumor the size of a walnut. It was a hideous looking affair, almost closing the eye, and I could get no history of how it was acquired. I see young men with chancres in various locations, not only upon the lips but in several instances upon other portions of the face—not bites from women but acquired in fights with men. Many of the suggestions I have previously made relating to the dissemination of a proper knowledge of the subject can be carried out if we go about it in the right way. Since this discussion in the New York Academy, ten years ago, I have endeavored, in a modest way, to carry out this view, and have recently written an article which was published in the *Medical Record*, in which is cited a large number of extragenital chancres, and nothing of a sexual nature is touched upon, so that article could be read by any one. We should all write this kind of papers to give the public and the profession at large, and the family physicians, the non-sexual aspect of lues so as to lead them to think of it as something more than a venereal disease. The speaker then referred to a case of chancre of the finger in a midwife, acquired in pinning a diaper upon a woman after delivery. She had washed her hands in carbolic acid at once, but in spite of this the chancre appeared. He also spoke of a large number of infecting sores in medical men, acquired in the pursuit of their calling.

DR. W. T. CORLETT, Cleveland, Ohio—I am in thorough accord with the ideas of the speaker, and think it an extremely important subject. The main difficulty which we have to encounter in doing anything to regulate the disease is the association with venereal disease. In common with Dr. Allen and others, I can testify that it is not uncommon to see children and innocent women presenting themselves with various forms of syphilis. Among those whose duties call them in contact with the disease it is not infrequently met with. In the last twenty years I have seen numerous cases acquired innocently. I have now, in Cleveland, a case of a nurse who acquired it in the performance of her duties. In Lakeside Hospital two orderlies were discharged with well-marked cases. It was only accidentally discovered by a nurse who called attention to it. The cases were at once recognized and the orderlies discharged. They had been giving baths, etc. The disease should be regarded as contagious as others now on the list, and should be subject to report as is smallpox, diphtheria, etc. It seems the only way to make a beginning in regulating and preventing the spread of this very prevalent and dangerous disease.

DR. E. WENDE, Buffalo, N. Y.—In regard to the board of health preventing the spread of this scourge, it is a matter which will present many difficulties in supervising. Yet I have frequently noticed a practice which is much in vogue in the hospitals of this country and Europe, that is, syphilitic patients are allowed to roll bandages for and dress the wounds of other inmates. It would seem proper that the profession should, as educators, first eliminate this custom from their own domain, before requesting special legislation governing such a delicate proposition.

DR. G. T. SWARTZ, Providence, R. I.—It would be very difficult in the face of the feeling against this disease, to introduce any regulations regarding it, so long as there exists so much difficulty in enforcing regulations against those diseases which have no such odium attached to them. I think the members of our profession should be brought to consider the desirability of speaking of this topic to one another and to patients, to treat it as a communicable disease, and a nonvenereal one. The time will come when it will be classed with the diseases which should be regulated. And though we can not expect to obtain all cases, nor have all cases reported, it will act something like the law regarding consumption in New York City. One-half of the physicians do not report consumption, yet the law is beneficial to that extent. In many cases which come into our practice, we do not know what to do with them; many patients would be amenable to restraint if we had authority to keep them. They are not received in our hospitals and must go back to their homes, to their families, with such ordinary precautions as we can give them, and you know how poor these can be. I think if this Section would put the matter in proper form, so that those outside of this Sections could see something was on foot in this direction, progress would be made and in a few years health officers would be willing to have ordinances and regulations covering the subject, and would be willing to attempt their enforcement.

DR. W. S. GOTTHEIL, New York City—I agree with the reader of the paper and yet there is an aspect of the matter which has not been touched upon, and which I think is of importance. We have had a good deal of trouble with the reporting of cases of tuberculosis in New York City, and if it becomes obligatory to report our syphilities, I foresee practical difficulties of no mean order. We are dealing with a disease the duration of whose contagion is entirely indefinite, for we do not know when the mucous patch, for instance, ceases to be a source of danger; and to make all cases of syphilis reportable, so to say, would greatly increase the unpaid work with which the profession is already overburdened, and further interfere with the confidential relationship between physician and patient which is perhaps more essential here than with other affections. And while I approve of all preventive measures that are reasonable, we must beware of the inevitable tendency of the health authorities to go too far in such matters. That this has occurred already in New York in the case of tuberculosis is the opinion of many competent judges and to add syphilis to their field of action would hardly be wise. The disease is a stigma, no practitioner would report a private case, and I doubt whether it would be possible to do so with those of the clinics and hospitals. I would make a plea for great caution in increasing the power of boards of health to interfere with the private work of practitioners of medicine. Some of us think they do so far too much already.

DR. W. L. BAUM, Chicago—I believe very thoroughly in what Dr. Gottheil has just stated, and Dr. Bulkley's paper should be distributed, and given as wide distribution as possible into the hands of the general practitioner. While admitting the general theoretically correct methods which Dr.

Bulkley would pursue, I still think the province is in the education of the general practitioner in the regulation of syphilis, and also in inducing him to carry to his private practice these regulations, and some admonition in regard to the promiscuous intercourse which is constantly practiced. One of the best methods of securing benefits is by inducing health officers and hospital boards to admit larger number of syphilitic patients to the hospitals for treatment; but they have no right to detain such patients under the English common law, and it is a question in my mind whether they have the right to stigmatize these patients with the diagnosis of syphilis which can reach any degree of publicity. With the ordinary contagious diseases publicity carries no stigma as syphilis does, even if we call it by another name. A tuberculous patient in a family is not felt to be a disgrace, but a syphilitic patient in one reaches future generations, and in that way such regulation would be decidedly objectionable throughout the community and it would be impossible to enforce such regulation features. A majority of patients who might be detained in clinics would abandon those clinics and remain outside and distribute their disease more thoroughly than if they knew their disease was kept for private record rather than a public measure of protection.

DR. L. D. BULKLEY—Syphilis has been ignored from ignorance, and has been neglected from negligence, on the part of the profession and health authorities. The objections which have been raised in regard to the regulation of syphilis, as a contagious disease, I fully appreciate, and I did not say in my paper, nor do I now, one word in regard to reporting of cases. If the first step could be made, and the health laws were so framed that it would be as much of a crime or a misdemeanor to wittingly give syphilis to others, as it is to give smallpox or scarlet fever, the first wedge would be inserted whereby the door could be opened wider at a later date. What I mean is this: If the proprietor of a hotel puts a visitor in a room where there has been a patient with smallpox or scarlet fever, without properly disinfecting, he is liable to damages, because he wittingly allows one to get disease there. Now apply the same to syphilis. This simply opens a door whereby people could be made responsible for giving syphilis wittingly, and would thereby make the careless ones careful. If the keeper of a bad house should expose one to smallpox or scarlet fever, he would be as punishable as the keeper of a hotel. Let him be held responsible for syphilis acquired in his house, then he will be careful to have everything in his house free from disease. To do this he will see that none of his male visitors bring it in, and for this purpose he will have to examine the men. This would result favorably in checking licentiousness by keeping a certain number away who have venereal disease, and also some others from shame at having to submit to such an examination. This would further tend, in a measure, to check promiscuous street prostitution, as it would be recognized that women thus engaged were probably infected, while men already infected would fear prosecution in case they communicated the disease to others.

I quite agree with what has been said in regard to the difficulty of thus including syphilis among the diseases subject to health regulations. Cases would not be reported—tuberculosis is not—but the beginning has been made in regard to the latter, and the sooner that syphilis is put on the same footing the better. The word "stigmatized" has been used in this discussion. The sooner you can get the idea abroad that syphilis is frequently acquired otherwise than by sexual intercourse, the sooner will it be recognized that there need be no stigma connected with the discussion of it or its restriction by law.

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**Transposed Rectum.**—A case of transposition of the rectum is reported in the *British Medical Journal* of March 23, in a boy of 5. The cecum was in a normal position, with a very long appendix passing through a hole in the mesocecum. The ascending, transverse and descending colons were normal, and the sigmoid flexure had a long mesentery which passed across the front of the cecum, but at the sigmoid flexure the bowel crossed behind the bladder to the right iliac fossa and down to the anus. The left iliac fossa was free from the large bowel.

# RECENT CLINICAL OBSERVATIONS ON TINEA VERSICOLOR.*

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The statement has recently been made that nothing further is to be learned from the clinical side of study in dermatology, and that all progress in this direction must come from effort to exhaust the possibilities of bacteriology and histology.

Granting that the preponderance of recent advances have been due to the finer scientific explorations with the aid of instruments of precision, and that this must continue to be the case, still, I can not believe that the clinical field has been exhausted. If it were not as true

FIGURE 1.

as it would seem to be that there is nothing new beneath the sun, the proposition that clinical discoveries are at an end might be successfully defended. Fortunately or unfortunately, we are prone to forget and are misled as to facts, once perhaps known and their importance appreciated. Rediscoveries must be made before we either learn of or come to realize the significance of certain clinical conditions.

If we take, for example, so common and readily to be diagnosticated an affection as pityriasis versicolor, one would suppose that the last word had been said in regard to its clinical features and that text-books would be in accord concerning all points connected with it.

To discover points of dissimilarity of view it is not necessary to go back to 1864, when Erastus Wilson, calling the affection chloasma—pruriginosum pigmentosum and furfuraceum—looked upon it as due to granular

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degeneration of cell tissue, "the granules being seen in great numbers under the microscope." Much more recent writers make statements which do not bear a critical clinical test.

Among such statements are to be mentioned "the disease is never seen in children;" "there is an absence of eruption on parts exposed to light;" "it is never seen on the palms and soles;" "it does not affect the face;" "it occurs only in those who have seborrhea and dyspepsia;" "it occurs chiefly in phthisical subjects." One of the latest writers to state that the disease never occurs on the face is Bosenquest.[1]

It is not my intention to attempt a refutation of all of these statements. The occurrence of tinea versicolor in those below the age of 10 years has several times been verified by competent observers. Dr. Gottheil,[2] of this city, recently reported a unique instance of the affection located upon the palm, as shown in Fig. 1. Patches which were almost black in color had existed on the palm of a physician for fifteen years. When examined no other spots were found on the body.

The writer has in a number of instances during the past three years observed the affection on the face, as shown in Fig. 2 and Fig. 3. In both instances it extended from the neck over the jaw and upon the cheek. In the case of the boy (Fig. 3*a*), who is a favus subject, the lesions are seen well up in front of the ear. Upon the opposite side they extended only to the cheek on a level with the ear-lobe. The region involved has been painted with a strong iodin solution as a test, of which I shall presently say a word. The outline of the patches on the face and neck are somewhat better brought out by this procedure. I have also seen an isolated patch on the forehead in a young woman. It has been my observation that patches on exposed regions are darker than those hidden from the light.

FIGURE 2.

Clinicians who have a large experience know that those in perfect health are affected as well as the debilitated. In the practice of a specialist for the lungs and heart, the vast majority of subjects of tinea versicolor will be also subjects of phthisis.

In my personal experience it is quite the exception to find phthisis, or indeed any other severe disease coexisting, and I have not been able as yet to verify the statement as to dyspepsia and seborrhea being frequently present.

A year or more ago I pointed out the clinical fact that there is frequently to be found in the pubic region of both men and women one or more patches of tinea versicolor which escape adequate treatment because hidden by hair. These patches often escape the observation of the physician as well as of the patient, and I believe they are to be looked upon as the source of renewed infection in the recurrences which so often follow a course of treatment. In a large number of patients who have presented themselves in the recurrent attack, with a history of having previously removed all the spots from the trunk by treatment, I have examined this region for hidden lesions, and my search has often been abundantly rewarded.

FIGURE 3.

There is one other source of latent or lurking disease to which sufficient attention has not been directed. The affection is almost invariably referred to as one of the superficial epidermis. If the outlying little islands surrounding the larger plaques are closely examined in their earliest stages of formation, it will be seen that they spring from a fine lanugo hair or follicular opening as a central starting point, from which the round spot slowly extends equally in all directions. Very little treatment often suffices to remove all that is to be seen upon the surface, but unless treatment is persisted in, the fungus which has dipped down into the follicle will, under favorable conditions, start up a renewed growth. In some rare instances a tinea versicolor of long standing will be limited to such small round lesions upon the upper portion of the chest.

The iodin test, to which I have referred, consists in painting suspected areas with Lugol's solution or tincture of iodin, the former especially giving a deep mahogany or dark brown color to lesions in which the fungus still exists. This is also a valuable test in distinguishing pigmented areas of this disease from chloasmas, macular syphilides, erythemas, exanthemata, etc. It does not distinguish between this affection and

1. British Journal of Dermatology, October, 1899.
2. Med Record, July 1, 1899

pityriasis rosea or disseminated ringworm of the body, both of which stain in much the same manner. It has the advantage of being at the same time curative, though perhaps in a lesser degree than some other commonly used remedies.

The diagnosis without microscopic aid is not always as simple as we know it to be in the majority of instances. This may be because of unusual situation, unusual form, color distribution, or because of some modification by treatment which has been applied.

A remarkable black-ringed, deeply-pigmented eruption was presented a year or so ago at the New York Dermatological Society as some rare or undescribed affection. It turned ont to be a pityriasis versicolor which had been treated by chrysarobin.

The diseases which are apt to be confounded with pityriasis versicolor are the pigmentary syphilide of the neck, unusual freckle-like pigmentations over the trunk,

FIGURE 3*a*.

chloasma due to various causes, the pigmentation remaining after syphilitic roseola, vitiligo with surrounding pigmentation, leprosy, seborrheal eczema, pityriasis rosea, and in a case recently seen the lesions were so masked by an acute dermatitis that the picture was very confusing.

*Pityriasis nigra*, as recorded by Willan, Cazenave and Tilbury Fox, is so infrequent a form, at least in this country, that I will, in closing, refer to an instance recently presented by me at the New York Dermatological Society. The neck of a young man who had been about two months in the country was almost entirely surrounded with coal-black plaques running into one another and extending slightly upon the hairy scalp. So similar were the appearances to a dirty neck, such as a worker in coal might present, that at first glance almost all the gentlemen present were disinclined to attribute to the disease any great share in its production. No amount of washing, however, with soap and water, was adequate to remove the stains, and it was only after vigorous treatment that the patient was freed from his disfiguring affection.

Another unusual form of the affection is that occurring as ringed lesions over the chest. I show a photograph of such a case in a young syphilitic discovered on stripping him in the stage of roseola. At first the outline of the rings were so like the acute mild attacks of seborrheal eczema in this same situation that such a diagnosis was suggested. Scrapings examined by the microscope at once dispelled this erroneous view.

FIG. 4.—Iodin has been applied to cause the patches to show better.

Now a word as to treatment. Among the great number of recent suggestions added to the already large list of "cures." I have found one which promises well: a butter-like ointment made with calcium bisulphid in saturated solution, 50; lanolin, 20; lard, 30: To be applied twice daily. Lugol's solution is efficacious.

Soap of itself alone I have found capable of ridding the surface of the growth. A sand soap or one made with pumice-stone, etc., have rendered good service. Arthur Powell, writing of the disease as it affects the face of natives of Bengal, states that they not only seldom use soap, but that some anoint the body with oil, and we know from the sites of predilection of the eruption that those parts richest in sebaceous structures are mostly implicated.

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## EXPERIENCE WITH AN EPIDEMIC OF RABIES IN BUFFALO.*

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An important fact to be gathered from history is the liability of human beings to be attacked by diseases of a contagious nature, transmitted through the agency of inferior animals. These diseases often present such unusual features of interest and severity as to engage the serious attention of the local health authorities, and alarm the public generally; and none more so than rabies, on account of its cruel character, distressing anxiety, mortality, its ever-present source—the dog—and the unfortunate dispute as to its actual existence. It is a much easier and more popular task to dilate concerning the habits and good traits of this inseparable companion, than to describe the peculiar morbid manifestations which can not be considered apart from or independent of the other mammalia that have been infected through his bite. It must be viewed in conjunction with man, if we would hope to form a just, enlarged and correct idea of its true significance and pathologic affinities. It is one associated with misconception and ignorance, which entails a large amount of needless and woful suffering, and even death.

It is not my intention to make a thorough analysis

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of this interesting subject now, nor to discuss its antiquity, extent or origin, but merely to record a few facts and experiences that are especially connected with the epidemic of rabies, circumscribed within certain bounds in and about the city of Buffalo, N. Y., and now practically under control.

I wish to accentuate that the malady was first observed in November, 1898, in a pug-dog owned by a resident in the Kenmore section of the city, followed by a cow being attacked, and, later, by a horse from a livery stable on Jersey Street, the latter dying and the former being killed.

These were followed by a number of isolated cases, scattered throughout the city, at varying intervals, until June, 1899, when a stray dog, acting strangely, appeared in Alden, N. Y., and bit a dog, which subsequently went mad, biting several dogs, and among them, it was surmised, a large Newfoundland, of a playful and tractable disposition, that had never strayed from his master's threshold, was everybody's crony, the pet of the neighborhood, the willing comrade and frolicsome playmate of the village school children. It would almost seem that he was too gracious an animal, in the process of time, after catching the infection, to have become frenzied, and furious, and to have wandered miles from home, snapping at everything alike, whether animate or inanimate, and biting three men, two horses, four cows, and no one knows how many dogs.

Of the men, J. G. was attacked and severely bitten in the arm, near Wende Station, a distance of four miles from the home of this once affectionate animal. O. S. was bitten in the hand, at Looneyville, a mile or more further on, and S. J. W. likewise was bitten in the hand, in the Township of Lancaster, at a distance of at least ten miles.

The Department of Health, to arrest this terrible infection of these men intrusted to its care, did not hesitate to advise them to take immediate advantage of the treatment to be obtained at the Pasteur Institute, New York City. These, then, were our first cases to leave Buffalo for the special treatment of this unique and mischief-making complaint.

Of the horses bitten, one died; of the cows, three; while the dogs were mostly killed, leaving but a few to be securely housed for demonstration and observation of facts, however, only to see them grow uneasy, develop the disease and die. Somewhat later, at Derby, N.Y., a singular tramp dog also turned up, behaving in an uncustomary manner and, before being shot, bit seventeen dogs and two cats, all of which were promptly killed. These two cases mentioned must suffice to illustrate the deadly work that can be perpetrated by a single mad dog, for similar instances have been so frequent with us that it would be tiresome to try to enumerate them all.

Verification of the true nature of the malady was made in numerous cases by Drs. Bissell and Carpenter, bacteriologists of the Department of Health of Buffalo, with the result of uniformly finding the diagnoses to be correct. Further verification was had in portions of the brain of dogs sent to Professor Moore of Cornell University, and the Bender Laboratory at Albany, notably in one case where the dog presented but vague evidence of the malady. Direct inoculations upon fox-terrier dogs were made jointly by Dr. John Wende, veterinarian, and Dr. Carpenter of the Health Department, from rabid-dog brains, with the result of developing the malady on an average on the twenty-third day.

In a communication to me, from Deputy Commissioner W. C. Patrick, of the State Department of Agriculture, I am able to give the following illustrative cases of the epidemic in the rural districts. One vagrant dog bit one calf, one cow and possibly others. The calf and cow both died with pronounced symptoms of rabies. A second vagrant dog bit one calf and three cows, of which the calf and two of the cows died—undoubted signs of rabies. A third vagrant dog bit one horse and one cow; both died of typical rabies. A fourth vagrant dog bit one horse, two hogs and one cow; all died with rabies.

These animals belonged respectively to: L. T., Marilla, N. Y.; F. B., Marilla, N. Y.; J. V., Alden, N. Y.; W. J. R., A. S., C. F., and B. J. S., all of Lockport, N. Y.

These dogs were all acting strangely when observed, were aggressive, and bit without provocation, and attempted, though failed to bite many other animals. The animals bitten, and which died, were particularly examined and studied, and their malady diagnosed as rabies by Dr. Kelley, state veterinarian, Albany, N. Y., and Dr. Anderson Crowforth, Lockport, N. Y.

### MUNICIPAL RESTRICTION OF RABIES.

The question of municipal control for the restriction of the spread of rabies is most important, presenting many peculiar aspects. The experience of the Department of Health of Buffalo, in securing legislation in the interest of public health, shows that such procedures can not be obtained without strong opposition from certain classes, some undoubtedly well-meaning, but not well-informed, others well-conned, but not well-disposed.

Ordinances relating to sanitation, contagious disease, and the regulation of the practice of medicine, have all been borne with opposition that has ultimately fallen into merited oblivion, but in none has there been such unreasonable, violent antagonism as toward measures directed to restrain the possibility of injury from dogs. It would appear by those referred to that the possible discomfort of dogs was of more moment than the protection of human beings. Muzzles were objected to as cruel; leashing and chaining as injurious to their health, while evasion of the dog ordinance regulating the action of animals most likely to be infected is practiced and justified from a sense of false sentiment or morbid heroism. It was obvious that no laws, however good, could be substituted for good citizenship, and it was evident that the public is much to blame for this apathy, carelessness, opposition and cussedness.

The presence of a multitudinous dog population in a community serves no good purpose; their diminution and restriction is indicated and should be accomplished. They should be permitted only under restraint of safeguards. It should be the policy of the authorities of all large cities to have regulations of such character as would cause not only a decided decrease in the number of useless curs usually prevalent, but would limit their character and ownership to those most desirable, thus benefiting the community and the dogs themselves, which, in relation to rabies, would mean less material, less menace and greater facility of control. Unless every care is taken, each individual case is liable to start an epidemic. Only those who make a special study of this question can be fully impressed with its importance. The extreme ignorance of the public generally in this matter is a fact admitted by all capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind. The most false and most absurd notions are entertained respecting the

whole subject and respecting the means capable of removing it. The prevalence of rabies in large municipalities is a grave danger, not only to the well-being of the community itself, but to all the surrounding territory—and equally pernicious, if not more so, are the so-called antirabic wiseacres who trade upon opposition which, unfortunately, obtains to such an extent in these days, and is, in my opinion, unmitigated insincerity of the most detestable description. Here, as elsewhere, it is apparent that their mind can scarcely ever escape from the conventional thraldom in which it has been nursed. They naturally oppose and restrain the unselfish efforts of the sanitarian in his attempts to blot out sickness, sorrow and suffering, by dodging the truth and working upon the ignorant to deceive the public, and to increase their own consequence, like the witches and imposters who have always held competition with physicians, caring nothing for the safety and health of the public, but continually striving to induce it to swallow falsities for facts. I have often wondered if it ever occurred to them that such misery and death might be entirely prevented. At any rate, and in all events, it is the duty of an honest mind, on attaining conviction of an error, to abandon and to explain it, even though the truth that is sure to succeed it may, as yet, be seen only darkly, or be entirely hidden.

Therefore, every city in dealing with dogs should be provided with efficient rules, regulations and ordinances and demand their rigid enforcement, the features of which should embody: 1. Police supervision, registration, tagging, a large license fee and penalties. 2. Capture and death of all dogs at large not so registered and tagged. 3. Muzzling and leashing all dogs when at large. 4. Distribution by police to registered dog owners of cards educational in character, giving information concerning the care of dogs, rabies, ordinances, penalties. 5. Periodical police house-to-house census to determine that such regulations are in force. 6. Stringent quarantine against all localities known to contain this disease; and additionally during periods of epidemics. 7. A large force of extra dog-catchers to raid the streets, catching, for destruction, all unmuzzled, unleashed and unlicensed dogs. 8. Police instruction to kill such animals, whenever found practicable, by shooting. 9. Destruction of all dogs, cats or other animals bitten under even suspicious circumstances. 10. Immediate cleansing and disinfection under official supervision of stables or premises where animals have been harbored while suffering from rabies. 11. The destruction by fire, or thorough cleansing with hot soap-suds, and disinfection of kennels, bedding and feeding utensils. 12. The skinning of carcasses of animals dying from rabies or suspected to have died from rabies should be strictly forbidden. 13. All carcasses of animals that have suffered from rabies, real or suspected, should be rendered harmless by cremation. 14. Prohibition to cure any animal suffering from rabies, or being suspected of suffering from rabies, without official permission. 15. The transportation, if ever necessary, of animals having or suspected of having rabies, should only be performed in a closed vehicle or receptacle.

By this combined system of raiding and police action rapid extermination is effected. Both methods are considered actually necessary on account of the dog-catching system being so possible of evasion—owing to the fact that the whereabouts of these officials spreads like wildfire, dogs are secreted and efficiency is thereby crippled. Therefore, in order to gain speedy protection, to succeed in suppressing an epidemic of this nature, the community at large must graciously express a willingness to accept the indicated procedures.

### OBSERVATIONS ON THE BUFFALO EPIDEMIC.

Briefly, the prominent clinical characteristics of the Buffalo epidemic were: 1. History of altered behavior of the animals; they showing irritability, restlessness, changed disposition. 2. Desire to swallow foreign bodies—wood, stone, glass, dirt, grass, etc. 3. A tendency to stray; in the majority of instances the dogs left their homes, wandering away for one or more days, an act unknown in their previous lives, and returning in a bad condition, sick.

Of all the symptoms, in the furious stage none were so constant, characteristic and diagnostic as the alteration in voice; almost every dog manifested this evidence of paralysis of the vocal cords in the hoarse, howling bark, changing into a high-pitched falsetto-like note. All were characterized by biting and snapping at imaginary objects, with furious aggression toward anything before them—the floor, bucket of water, sticks, any article in fact within their reach. Many would hold on so tenaciously to objects held before them that they would be lifted by their hold and moved from one place to another. A marked symptom observed in cases of the furious form, and one to which attention has, apparently, not been called or observed, and which may become a strong differential diagnostic point, was the absence of any inclination on the part of the dogs to shrink or retire from impending blows or attacks. Ordinarily, a dog approached with a club in the attitude of a coming blow recedes, dodges and evades it. In dogs, however, with this malady blows could be aimed directly toward their eyes, face or head without their giving any evidence or appreciation of the impending danger of possible injury or pain. This was so noticeable as to be commented on by even non-professional persons, and was demonstrated over and again. Of course, when objects were held before them, or were coming toward them they would frequently attack them viciously, blindly, but between the paroxysms of fury, when quiet, dogs approached with a club aggressively, as stated, would pay no attention, the act being unappreciated. This is not the case with well dogs which, under such circumstances—depending on their dispositions—appreciate the movement and either endeavor to evade or retire from it or attack. This feature, noticed in rabies, I believe to be characteristic, and, if experience in this epidemic is a criterion, it will be found in the future when looked for.

Another symptom noticed and heretofore undescribed, when spasms of muscles of deglutition were violent, was a pouching out of the throat, visible externally. When present in this degree these spasms were followed by relaxation of the sphincters and involuntary defecation and urination.

At the dog pound, from the inception of the epidemic up to April, 1900, there were 4429 dogs disposed of, among which were 95 furious and 35 dumb animals.

From April 1, 1899, till April 1, 1900, the Department of Health investigated 230 cases of persons bitten by dogs. Of the 37 persons bitten by rabid dogs in the city, 4 died in the agonies of hydrophobia. A synopsis of their cases seems pertinent, on account of their rarity.

### FOUR FATAL CASES.

W. B., living in the Cheektowaga Township, at the city boundary, had a mixed-bred collie watch-dog. The child of one of his near neighbors, 8 years of age, in

passing the gate on his way home from school was, without provocation, bitten by the dog, which at the time was loose in the yard. On B.'s return to his home, the biting being reported to him, he searched for the dog; found it secreted under the barn, and in securing it was bitten slightly on the hand. The dog was killed and taken to the bone-yard, when, on opening its stomach it was found to contain sticks, stones, grass and other foreign bodies. No further consideration was, apparently, given to the matter of the biting beyond ordinary medical attendance at the time.

Eighty-one days later, however, the boy who had been bitten was taken sick and died on the fourth day, in great suffering, his illness presenting a classic picture of rabies in the human being. The death of the boy brought a realization of the possibilities of the case to B., who was sent without delay to the Pasteur Institute in New York for treatment, but he died under similar circumstances, the disease developing in him just two days later than in the boy.

A. F., a strong young man, was attending a dance, when a stray fox-terrier wandered into the dance-hall, acting peculiarly. He succeeded in throwing the dog out, but was bitten in the hand in so doing, as was also a second young man who had attempted it just previously. Neither of them paid any attention to the incident, further than to have their bites cauterized and properly dressed at the Fitch Hospital. On or about the thirty-sixth day he was taken ill with symptoms of an indefinite character, but which soon developed into a typical case of hydrophobia, when he was removed to the Buffalo General Hospital, dying there, in the greatest agony, after an illness of but four days. During the time he was in the hospital, his case was observed by a number of prominent physicians, all of whom diagnosed the case as typical, also considering it one of the most terrible death-bed scenes in their experience. The other man who was bitter disappeared, but was finally found with some difficulty and sent to the Pasteur Institute, New York City, for treatment, and he escaped the fate of his companion.

The fourth case of death from rabies in a human being was in the person of M. D., of 375 Peckham Street. She was under the care of Dr. Emil Lustig, and died after a three days' illness from typical hydrophobia. The death certificate of this case, as those of the others, are on file in the office of the registrar of vital statistics.

*Postmortem Findings.*—Autopsy on the child, performed by Dr. W. H. Heath, of the Health Department, showed the boy well developed, with some emaciation. Rigor mortis was slight; the skin cyanosed, particularly in the dependent part of the lips. The mucous membrane of the mouth and throat was more especially swollen, dark colored and congested, and the larynx and large bronchi reddened, and swollen, with an excess of tenacious mucus present. The lungs were found moderately congested. The heart, in diastole, contained the death clot, and the large vessels were filled with dark heavy blood. The stomach was normal, the liver very full of blood; the kidneys normal. The bladder contained a small quantity of urine, with no albumin. The brain showed intense congestion over the cortex, most marked posteriorly and over the medulla, extending down and fading away over six or seven inches of the upper part of the cord: on section, red punctuated points of engorged capillaries were present: the membrances were edematous and not adherent. The autopsy showed no pathognomonic lesions. Death was due to exhaustion and heart failure.

Those who dispute the existence of this disease and its fatal consequences, likewise assail the honesty of Pasteur's great work, the usefulness of the Pasteur institutes and the integrity and even commercial honesty of those who operate them.

Our experience and the deductions best drawn from it is briefly as follows: Thirty-four persons were sent to New York City for this treatment. These were all bitten by dogs pronounced rabid after careful examination by Dr. W. H. Heath of the Department of Health of Buffalo, a graduate of the University of Pennsylvania, and lately from the U. S. Marine-Hospital Service. The Doctor brought to this work the proper training, education and reputation, and, further, a strong personal interest, all of which is referred to as evidence of the correctness of the deductions and weight of opinion. During this epidemic many prominent physicians were induced to make personal examination of the nature and character of the malady and the various phases of it present in different cases. Of these, many were known to be owners of dogs, skeptical or non-believers in hydrophobia, and it is gratifying to note that, with that honesty characteristic of the true medical man, there was no difficulty nor hesitation in recognizing the malady, nor in acknowledging their previous erroneous views. One of these gentlemen, a professor in the University of Buffalo, in undergoing this change of opinion considered it his duty to exhibit a case of the affection to the medical class of the University, and give a clinical lecture thereon.

### POPULAR MISCONCEPTIONS ON HYDROPHOBIA.

This epidemic demonstrated the fact that, at least in this section, popular misconception concerning certain features of hydrophobia continue to exist to a large extent and had to be contended with, viz., that after dog bites, in the event of the dog becoming rabid, the person bitten would become likewise affected; that dogs should be killed at once to prevent the bitten ones from becoming liable to the malady; and, singularly, no reference was made at any time in press or letters to the press to the superstition and curative properties of the "mad-stone."

To the writer it would appear superfluous to seriously present facts substantiating the existence of the malady in dogs, and its communication to man, were it not that a number of no doubt well-meaning, but misguided persons take the opposite view to the detriment and injury of their fellow beings. When consideration is given to the fact that governments abroad recognize the malady and make provision for it, that it has been the subject of investigation and demonstrated to be a malady of the most horrible possibilities, and by men of the highest ability and undoubted integrity, that it is considered in all classifications of disease, in all courses of medical education, in all text-books, it seems incredible that there can be found any to dispute the question. As the antivaccinationists seek for other reasons than the true one to explain the subjugation of smallpox, so do these persons seek by the most untenable way, in the light of facts, to explain this malady. They can not, or will not, see the simple fact that dogs get a fatal malady, inflict fatal wounds upon dogs and man with fatal results, and that it is possible to practically and successfully avert these consequences in man through a treatment which is based upon the correctness of views held by medicine concerning it; they are so strenuous to deny its existence in this connection.

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THE smallpox cases in Glasgow, up to March 18, numbered 1527 with 187 deaths.

# PURE-FOOD LEGISLATION VS. POOR FOOD-LEGISLATION.*

MURRAY GALT MOTTER, M.D.

PHILADELPHIA.

For the purposes of this paper, it matters but little which of the above titles is taken; the one representing what is admittedly desirable, the other—unfortunately to a large extent—what actually exists. The problem involved is by no means so easy as, at first sight, it might seem. Much of our knowledge of the general subject is, as yet, but tentative and, in attempting to formulate it, so much depends upon our definitions. Certain general principles, however, seem to have been fairly established; and legislative enactments embodying them prove efficient or futile just in proportion as these fundamental principles are kept well to the front, or are lost in a mass of minor detail.

For the present we shall use the term food in its broadest sense, meaning thereby "the substances taken into the body which are utilized in maintaining the functional activity of the organism." This definition, given by Sidney Martin,[1] it will be seen may be made to include drugs, as well as foods and accessory foods, as they are more commonly understood. While it would be beside our purpose to argue that a drug is a food, or vice versa, it is certainly true that drugs are used to maintain "the functional activity of the organism," and as the subject of pure drugs is so frequently considered in connection with that of pure foods, the one general term may be used to include both—at least in public health discussions.

While the fact may be rather a sad commentary upon our times and customs, the necessity for legislation on these subjects is assumed to be granted. In a paper, not yet published, Dr. H. W. Wiley, of the U. S. Department of Agriculture, classifies food legislation in regard to its source, as national, state, and municipal. For obvious reasons, such division of the subject is, in this country, of peculiar import. Continuing, Dr. Wiley defines food legislation according to character, as general, subjective, prohibitive, restrictive, and fiscal. Taking them in inverse order, we can hardly look upon food legislation from the fiscal standpoint, however effective it may have proved, as other than an emergency measure. Of this, more later. Restrictive legislation is held to be objectionable because it can hardly be framed without more or less unjust discrimination. Prohibitive legislation is almost invariably a failure; that it has a distinctly deleterious moral effect has been deduced from our experiences in the effort to prohibit the sale of intoxicants. Subjective legislation is deemed too cumbersome for practical efficiency, inasmuch as it involves legal enactments for each separate product to be controlled.

General legislation then, according to Dr. Wiley, is the only just and practicable method of securing the desired results. The Brosius, Mason and other bills before Congress partake of this character, and are to be executed by the (to-be-elevated) Director of the (to-be-erected) Bureau of Chemistry of the Department of Agriculture.

Here, then, we may hear the old cry: "There is no god but God, and Mahomet is his prophet!" It is rather confusing, though, to discover that there is more than one claimant to the title of "Defender of the Faith."

Dr. Charles A. Crampton,[2] Chief Chemist, Internal Revenue Office, in a recent article on "Food Preservation and Food Adulteration," declares that: "In view of the difficulties which have beset the path of the Interstate Commerce Commission in the exercise of their authority, it is a matter of grave doubt whether the Secretary of Agriculture would be able to enforce a law based upon the same authority. The Department of Agriculture, moreover, while it is well equipped in the matter of scientific experts, has no large force of local officers at its disposal, a most essential and expensive part of the machinery necessary to the proper execution of a measure which will involve the inspection of the entire area of the United States from Maine to California." Dr. Crampton seems to have overlooked the fact that the U. S. Department of Agriculture has, perhaps, a larger and more widely distributed "force of local officers" than almost any other of the government departments. It may be questioned, however, whether a veterinarian for instance—at least in the present state of development of our veterinary schools—would be wholly competent to fulfil the manifold functions which these proposed laws create; and if the veterinarian be incompetent, the revenue officer would be apt to be still more so. Dr. Crampton concludes that "a much more feasible plan . . . would be the enactment of a general law modeled upon the revenue laws now in operation, or the gradual extension of these laws to cover other articles of food liable to sophistication; the scientific resources of the Department of Agriculture could be well applied to the establishment of standards of purity, a most troublesome branch of the subject, and one not necessarily connected with the routine of its execution."

For any one familiar with the history of the old National Board of Health, and the steps by which it was practically smothered out of existence, it is easy to imagine that the Supervising Surgeon-General of the U. S. Marine-Hospital Service, writing in the same strain, might be able to demonstrate that that Bureau of the Treasury Department is the only possible government office to which the great work should be assigned. It is a fair inference, from Dr. Crampton's opening paragraph, that the War Department, too, may know something—at least of preserved meats.

Turning now to the bulky volume of testimony before the Senate Committee on Manufactures (Senate Report No. 516, 56th Congress, 1st Session), one is inclined to question "the wisdom of Congress" (invoked by Dr. Crampton), if it is to be adjudged by some of the propositions here set forth. Perhaps, from the standpoint of a chemist or a member of congress, "the great bulk of the condensed milk of the country is a perfect human food" (page 3), and candy may be "a natural and proper element of food" (page 9), but the members of the Section on Diseases of Children, of this ASSOCIATION, will scarcely endorse these dicta.

It would be as tiresome as it would be futile to wade through this conglomeration of repetitious testimony, the value of which, by reason of the way in which it was taken and recorded, is—from a scientific standpoint—infinitesimal; even were all the articles there enumerated mentioned, the whole field would not be covered. Nor do we find the National Pure Food and Drug Congress conducted with that singleness of purpose which might be thought desirable. Those of us who attended its

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Stevenson and Murphy: Treatise on Hygiene, vol. i, p. 393, Phila.: Blakiston, 1892.

2. N. Y. Independent, vol. lii, No. 2681, pp. 942-44, 19, iv, 1900.

sessions found much of the time taken up with the bickerings of conflicting interests, the cross-purposed wire-pulling of individuals who have axes to grind.

In spite of all these conflicts and differences of opinion—many of which arise from inability to get a comprehensive view of the whole situation, or from unwillingness to move in this matter with an entirely unselfish desire for the public welfare—there are some points about which all who are in earnest are agreed. For convenience, Dr. Crampton is again quoted: "The keynote of modern propaganda in respect to methods of control of food adulteration may be given in three words—viz. *an honest label!* No one wishes to deprive the poor man of his right to use a cheap and wholesome substitute for a more expensive article of food; it would be an unwarranted interference with the rights of both producer and consumer to prohibit the sale of such an article; moreover, it would be inimical to the advance of scientific invention, which has conferred a distinct benefit upon mankind by its production. But it should be sold under its true name and upon its own merits, not as or for the article of which it is an imitation or substitute."

The idea, then, would seem to be not that adulteration, imitation, sophistication, substitution, are unobjectionable, but that they would be practically impossible if everything were labeled *suo nomine*. From a scientific standpoint, it is desirable to demonstrate, wherever possible, that this or that food product is, or is not, wholesome. But there is a fact, so often overlooked by scientists as well as would-be scientists, which has been especially emphasized by Prof. A. B. Prescott in his testimony before the Senate Committee, namely, that laboratory reactions, test-tube physiology, are very different processes from those which take place in the human economy. Says Professor Prescott (Senate Report 516, page 197): "No two stomachs are in exactly the same condition. The contents of the stomach, the chemical agencies of solution in the stomach, are very, very, complex; in fact too complex to be fully defined by chemistry at the present time." Would that all physiologic chemists were so honest and frank! The inability of even competent chemists to reach final conclusions on these subjects is curiously illustrated in some of the German laws. In one section of the country we find that borax and boracic acid have been adjudged inimical to health, and therefore their use as preservatives prohibited. In another, we find that similar authority has decided that these preservatives are harmless and therefore their use is permitted.

Viewed from the other standpoint, the history of food legislation shows pretty clearly that the consumer may safely be left to his own instinct and experience to determine what is or is not wholesome. What he seeks and demands is simply the truth. So that, both physically and fiscally, the public weal is best conserved by absolute honesty. In proof of this take the testimony offered on the subject of mixed flour (Senate Report 516, page 5). Said Mr. Augustine Gallagher: "People don't want a mongrel, they want real goods; they are satisfied to trust their judgment. If they want any mixing done they wish to do it themselves. They do not wish to be victimized in the mixing. People understand there is no use of any one mixing products unless they are making money by the process. The enforcement of the flour act has accomplished more in three months than was ever claimed for it by the most extravagant. . . . Our export trade in wheat flour has increased between 24 and 25 per cent. during the first three months of the operation of the mixed-flour law."

This brings us to another point, well made by Dr. Crampton, the absolute futility of the attempt to inculcate moral principle by mere legal enactment. As he puts it: "the first and most important requisite to a more rigid control of the practices of false pretences and counterfeiting in the preparation and sale of food products is, not more legislation, but a more sensitive public conscience; not more illy considered and half executed laws, but more respect for existent laws on the part of the producer and seller, more vigorous assertion of his rights in the premises on the part of the buyer and consumer. So long as it is practically impossible, owing to the state of public sentiment, to send a man to the penitentiary for selling oleomargarine as butter, it will not be possible to execute with any degree of thoroughness further laws which multiply the number of the same character of misdemeanors."

What then, in conclusion, is the proper solution of these problems? The writer by no means feels himself competent to give a final answer to the question. Yet, there are suggestions which may come to the mind of any thoughtful student of the subject, and in proportion as they are honest and disinterested they are, presumably, worth recording.

In the first place, this subject demands a greater interest and a more thoroughly cultivated intelligence on the part of the medical profession. The physiology of digestion, absorption and assimilation and the whole question of dietetics, in health and in disease, together with that of practical therapeutics, must be more carefully worked out. These studies should be so conducted as to be wholly removed from the debasing influence of commercialism. We are yet far too prone to be led by the alluring advertisements of the enterprising manufacturer to try, and even to commend without a fair trial, the multifarious products which he foists upon the market—for revenue only.

Given such a preparation, the second point will have been insured, the adoption—by the profession, not by the laity—of certain definite and more or less reliable standards, embodying the fundamental principles involved.

The third item will have to do with the putting into effect and carrying out of these principles—necessarily a governmental function. And here I would ask, where is the sense in, what is the excuse for the miserable, puerile, petty jealousies of the various government departments in the discharge of these functions? In common with many other members of the ASSOCIATION, the writer has long hoped and worked for the establishment of a national department of health, which, logically, should have charge of this and all allied subjects. Perhaps our efforts along this line have been misdirected. Certainly any measure which would convert into a mere political organ what should be—if I may so phrase it—a purely scientific organism, is to be deprecated. But is this necessary? In the past ten years, as my acquaintance therewith has grown, I have been more and more amazed at the extent and value of the work of the many scientific establishments under the direction and control of our national government. From the standpoint of economy, the apparent waste arising from the duplication and reduplication of effort in this direction, is even more amazing. As a matter of fact, it would be very difficult to so differentiate and isolate these various works as entirely to avoid duplication. The diverse functions of the governmental body are as closely inter-

related and interdependent as are those of the human body. Might it not be possible to establish a bureau of science, for instance, in which the achievements of these various laboratories—no matter in what department located—might be assembled and centralized, a scientific clearing house as it were? What matters it whether a chemical analysis be made in the laboratories of the U. S. Department of Agriculture, of the Treasury, or of War? There is no danger that a soil analysis will be attempted by the Biochemic Division, nor that a specimen of *Trichinella spiralis* will be referred to the bacteriologist of the U. S. Marine-Hospital Service. Nor yet is there any reason why the Entomologist's nose should be dislocated just because the Helminthologist is able to determine a specimen of *Boophilus bovis!*

Finally, when this whole subject has been properly formulated in the shape of a bill to be passed—not passed upon—by Congress, let the bill first be submitted to all specialists, all the trades, all the trades organizations whose interests are involved. Let each perfect his or their own section, showing in what way it will affect them and what points it is most important to secure. It is absurd to expect that a committee of Congress should wisely and justly determine upon the details of such a bill. Equally absurd is it that a chemist should define what is to be the part taken in these investigations by the botanist, the zoologist, the pathologist.

Several of the bills before Congress are supposed to contain all that is necessary, after a careful study of the food laws of other countries; but a comparison of these bills with the national laws of Great Britain and Germany, for instance, will show how utterly inadequate they are. It has been urged that, in prospect of the passage of the bill recently agreed upon by the National Pure Food and Drug Congress, it is best to withhold criticism—this upon the argument: "Better half a loaf than no bread." On the other hand, it may be said: "'tis better to bear the ills we have than fly to those we know not of." The bill referred to, if passed as agreed upon, will not only work a manifest injustice in certain particulars, but it will, almost inevitably defeat itself, in others.

633 North Sixteenth Stret.

## A NEW LEG-SPLINT FOR TRANSVERSE FRACTURE OF THE TIBIA.*

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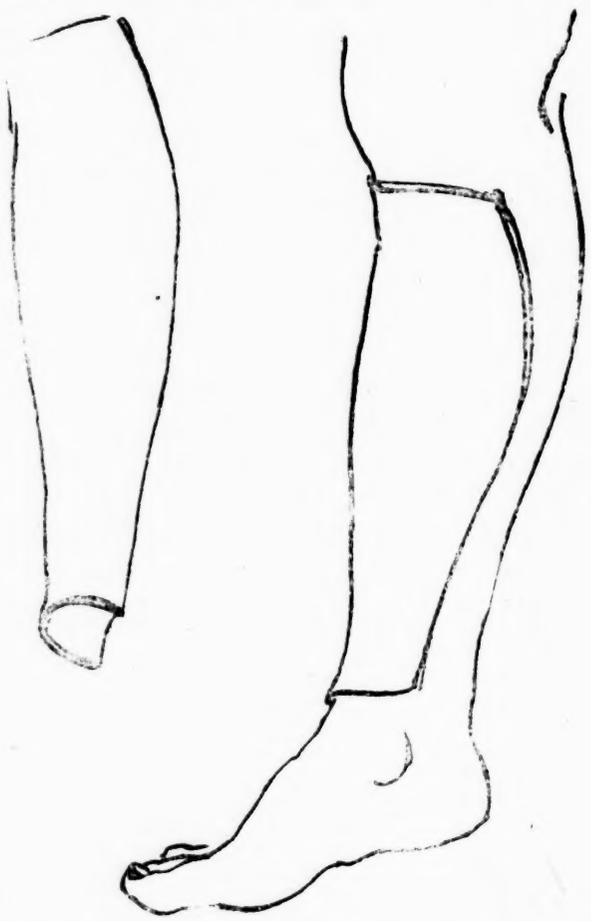
This paper considers, briefly: 1, why surgeons splint a broken leg; 2, the plaster-of-paris treatment for it; and 3, a new leg-splint devised by the writer.

### WHY SHOULD SURGEONS SPLINT A BROKEN LEG?

The question, though elementary, is quite opportune, as shall be shown further on. Senn[1] says: "In the treatment of fractures as in the treatment of wounds of the soft parts accurate coaptation and effective fixation should be aimed at, so as to place the parts in the most favorable conditions to unite by the smallest possible amount of new material." Thomas Bryant,[2] in his manual, writes: "After the setting of the fracture, the essential part to be observed in its treatment is the immobility of the broken bone; and next to this, its exposure during the process of repair to render certain that the bone has maintained its right position."

These quotations are sufficient to answer the query why we should splint a broken leg. A reference to the medical journals of the past year will show, however, that several surgeons—notably Championnière—advocate the treatment of fractures without the use of immobilizing apparatus. Massage and passive motion are deemed all sufficient. It is difficult to comprehend the *raison d'etre* of the newer teaching, unless it be viewed in the light of a reaction from alleged immobilizing apparatus in vogue that has serious disadvantages. The swing of the pendulum of practice, from misfit immobilizing apparatus that often produces deformity, and always prevents the seasonable application of massage and passive motion, to no apparatus at all, is the swing of the pendulum that has many illustrations in the history of the practice of medicine.



One advocate of the new method of treatment gravely informs us that the Hottentots never employ fixation in fractures, but rely solely upon rubbing. Despite this interesting information, it is probable that the English-speaking races, with the restraining influence of their jury system, will continue to employ immobilization in the treatment of fractures. The necessity for the use of massage and passive motion in the treatment of fractures is not questioned. That manipulation alone should suffice in the treatment of fractures, as with the Hottentots, is untenable. The combination of fixation, massage, and, in proper cases, passive motion, is doubtless the most effective treatment.

### THE PLASTER-OF-PARIS TREATMENT.

In describing this treatment, I shall quote an advo-

* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. "Principles of Surgery," Phila., 1890, p. 56.
2. "Manual for the Practice of Surgery," Phila., 1855, p. 63.

cate of it, a skilful surgeon, Dr. Estes,[3] of Pennsylvania: "After a transverse fracture has been thoroughly reduced and the fragments accurately adjusted, there is comparatively little danger of the fragments slipping, if the foot be kept quiet and some stiffening splint be applied to the leg. Plaster-of-paris splints I have found ideal in these cases. Two strips of tin, one on either side, or some flexible wood splints may be used as apposition splints at the seat of fracture, to prevent any movement of the fragments, until the plaster hardens. Before applying the plaster it will be well to pad the leg with an even layer of cotton-wool and to use a flannel bandage over the cotton, neatly, but not too tightly, applied, from the toes to the knees. If the fracture be near the knee it will be well to extend the plaster dressing 6 inches above the knee. More or less swelling will surely result after fractures of the bones of the legs; it is well, therefore, to bear this in mind and never use very tight bandages. The cotton-wool when properly used and the bandage skilfully applied will prevent any hurtful pressure resulting, but the surgeon should carefully watch the extremity for twelve hours after applying the dressing, and he should instruct the patient and his attendants to notify him at once in case great pain in the extremity or swelling and discoloration of the toes should take place. In any case which it will be impracticable for the surgeon to see within ten hours after the application of the plaster-of-paris dressing, he should insert, while applying the dressing, a narrow strip of tin under the plaster just over the flannel bandage, and instruct the attendants in case swelling and persistent and very severe pain should follow, at once to cut through the bandage upon the tin strips with a penknife, and so loosen the dressing."

The necessity of splinting having been shown and the plaster-of-paris treatment described, it remains to consider, in the third place, the new leg-splint.

### THE NEW LEG-SPLINT.

After the fracture is reduced, a piece of wood-plastic material is suitably cut, moistened with water and bandaged snugly upon the limb, directly next the skin, so that it embraces the shin-bone. The middle line of the long axis of the splint coincides with the anterior border of the tibia. This splint, lying next the skin, gives an efficient immobilization. It is light, cheap, and durable. At any time the surgeon can inspect the bone by unwinding the bandage and lifting up the splint. It thus permits of massage, to the importance of which this paper has already referred. There are no bits of wood, nor tin strips to be kept in place, no cotton batting to impair fixation, no flannel bandage, and no mussy application of plaster-of-paris.

Should the loosening of the apparatus be required in the absence of the surgeon, it can be done by simply unwinding the bandage. It is no easy matter for one unfamiliar with the technique to remove a plaster-of-paris "cast." The writer has treated cases of fracture where he would as well expect the attendant to know how to do an amputation, as to remove a plaster-of-paris dressing from a broken limb.

In conclusion, it is claimed that the leg-splint described fulfils the requirements deemed essential in the treatment of a broken bone, namely, efficient fixation, easy removal for inspection, or the application of massage, and proper protection of the weakened limb until normal bone reunion is complete.

3. "Internat. Jour. of Surg.," 1899.

## SOME OBSERVATIONS IN RENAL SURGERY.*

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This paper is a contribution to the natural history of error. In these days of enthusiastic renal surgery every frank analysis of diagnosis gone wrong, of operative blunders committed, of difficulties unexpectedly faced, must be not only of interest but of actual value to those undertaking operations on the kidney. It is a trite enough observation that we learn more from defeat than from victory—this is my apology for directing attention to certain of the errors observed during the development of the cases recorded in this article.

Jacobson describes nephrolithotomy as "one of those advances in modern surgery in which the operation has outstripped the diagnosis."[1] This statement is borne out by the astonishing fact that of twenty-seven nephrotomies for stone he met failure in six. Henry Morris also remarks that within his observation sixteen unsuccessful explorations of the kidney had occurred. Those who are overconfident of their own abilities, or disposed to think harshly of diagnostic error in others, would do well to study carefully the valuable outlines furnished by Jacobson of his six unsuccessful cases.[2]

It is a pity that this classification of error has not been extended further, so that we could have some statistical view of the percentage of miscarriages occurring in all kidney undertakings in the practice of some of the best diagnosticians and operators. For it would appear that the true *terra incognita* of present day surgical investigation lies behind rather than within the abdominal cavity. It is instructive to observe that this lack of definition as to the exact location and condition of the kidneys, which has not yet been sublimated out of the medical mind, is reflected on lines of broader ignorance in the sensorium of the layman, who never displaces heart or liver, rarely has left-sided appendicitis, yet incorrigibly locates his urinary organs anywhere from the sacrum to the *vertebra prominens* and from the spinous processes to the axillary line.

The cause for this constantly recurring inexactitude of place conception becomes on consideration sufficiently apparent, nor can it from the nature of things ever be thoroughly eradicated even from the medical mind, but must continue forever as a bar to anything better than a respectable percentage of perfect diagnosis. Our direct ideas of location and condition or quality of any organ or thing are based on sense perceptions, which enable us to separate it from other structures and conditions; bearing this fact in mind, it becomes immediately obvious that we can predicate little—with that certainty which we apply to ordinary things—of an organ which can never be apprehended by sight or touch except as disguised by the body wall, and is never directly or indirectly manifest to the other three senses. Moreover, while the absolutely definitive location of a kidney as such becomes singularly elusive, much more so must be the definition of local and limited disease within the organ itself. It must, indeed, be admitted that we are rarely in a position where the surgeon can predicate with certainty and from direct testimony the complete location and condition of any given kidney before exploration.

What I have said with reference to the uncertainty of the *direct* evidence of position and structure, applies with equal truth also to any *indirect* or circumstantial

* Presented before the Chicago Surgical Society.

methods employed to fasten the diagnosis of surgical disease upon one or both kidneys. It is an axiom of logic that the number and limitation of the premises being indefinite, the deductions must perforce become uncertain. Nowhere does this truth obtrude itself more constantly than during the endeavor to formulate a consistent and ultimately correct theory concerning an organ, the exact duplicate of which is found on the opposite side of the body, both organs pouring their only evidence of activity and identity into a common receptacle, and both of which are buried in fat and muscle and surrounded on all sides by organs, themselves scantily perceptible and themselves perhaps pathological both in location, position and intimate structure. Here we must of necessity often lodge finally, if we are honest, in a mere probability, putting up the moment before the incision with "the most likely looking" diagnosis, and more or less contented to follow in the lead of Lawson Tait, who solved the same kind of operative difficulties by observing laconically that "the kidney is best reached by the most likely-looking road."

Again, in groping for safe and infallible guides to this diseased organ, the surgeon is many times tempted to make deductions from single classical relations assumed on too narrow grounds to be inflexible in spite of changes in other organs and relations. If we would not make the error of placing the normal where it becomes abnormal, we must admit that normal relations disappear with the development of diseased conditions, so that no relation can be said to be normal or to be counted on in the presence of pathology. Most of us have at times lost sight of the fact that the principles of regional anatomy can not be applied to organs which have become so distorted through disease as to fall entirely out of their position, leaving vacancies into which other organs are at liberty to fall. We must admit that the colon lies in front of the kidney, and that the spleen and liver and gall-bladder lie above and in front of the colon; yet if we apply these truths too liberally, or lay down too many rules for the surgical guidance of our country friends, based on the literal and normal anatomy of these parts, we land them presently farther from the truth than if they had attacked their problems with ordinary common sense. Certain of the cases cited below bear witness to this point.

A somewhat acrimonious discussion which took place two years ago as to the relations of the portal vein to the common duct of the liver served to illustrate the fact that normal relations may be dangerous to follow in pathological and surgical dissections, for while we must admit that the vein normally lies entirely behind the duct, many of us have had occasion to thank Dr. C. Fenger for calling attention to the fact that in the engorged and distended portal vein incident to many diseases of the liver, the duct may be imbedded in and surrounded, in a great measure, by the vein.

This paper, therefore, is not written with the idea of exploiting any new or peculiar method of diagnosis in renal surgery, but rather to show that after careful consideration of this class of cases, and after applying faithfully to the elucidation of their diagnosis all of the methods commonly noted in the text-books, we still find it necessary many times either to confess ignorance or to run a large chance of being presently overtaken by error.

In the following reports we see the kidney taken for the spleen, and the spleen for the kidney; we see the liver sinking behind the colon to confound the surgeon in search of a kidney, and the kidney stretching its pedicle until it lies flush against the anterior abdominal wall; we see the gall-bladder finding its way into the loin and again into the iliac fossa, perinephritic abscess masquerades as calculus or appendicitis, and empyema as renal cancer. We see stone in the kidney treated for Bright's disease by the clinician, but we also see the kidney cut by the surgeon for stone and none found. Surely a chronicle such as this must give us pause if too much inclined to assume the skiagraphic eye when making a diagnosis of those surgical diseases lying in relation to the posterior reflection of the peritoneum.

CASE 1.—A. B., aged 27, country schoolmaster by profession, of good family history, but of excessively neurotic temperament, came to Cook County Hospital, complaining of frequent and painful micturition, with pains shooting into both groins from the lumbar region.

There was no history of gonorrhea, or of sexual indulgence of any kind, no varicocele, and the patient was unmarried. There could be no question about the frequency of the micturition, which occurred at least every half-hour during both day and night, and had caused him to lose much flesh through loss of sleep and food. An examination of the urine showed hyperacidity, a few blood cells, but no pus. An exploration of the bladder by means of the sound revealed nothing except an abnormally sensitive prostatic urethra, which was accordingly dilated, but without improvement. After trying various remedies, including large doses of bromids and pichi, the patient begged for operative measures, and accordingly the bladder was opened and drained, with complete relief of the symptoms. This relief, however, continued only as long as the bladder was open, and when the wound closed—which it did some time after his return home—his symptoms were as bad as ever, and he was absolutely unable to perform any of his duties. He returned to the hospital, where he showed no change in his symptoms, except that the pain was referred more directly to the left side. He underwent a nephrotomy of that kidney, the organ being thoroughly explored for stone or other pathological condition, but nothing abnormal was found. After this operation he was assured that he would be absolutely relieved, which proved to be the case until some time after he returned home and the wound was thoroughly healed. Eventually, his symptoms returned, this time being referred to the right kidney with redoubled severity, and he came once more to the hospital, very much emaciated and begging for a final operation on the remaining kidney. At this time his symptoms were thoroughly canvassed; the acid urine voided at frequent intervals and containing blood in small quantities, together with the pain shooting from the loin into the testicles, were thought to justify a third search for stone. At the third operation the result was similarly negative, except that there was an obstinate hemorrhage, which was thought at the time to have been controlled by gauze packing; during the night there was either a continuance or a return of the hemorrhage, and the patient died. At the post-mortem, there was found an incision into the renal vein, from which something like two quarts of blood had escaped, finally forcing its way into the peritoneal cavity. Other than this, there were no conditions which could be called pathological beyond great thickening of the bladder walls with an abnormally small bladder. There was no stone.

This painfully instructive case discloses the fact that frequent and painful micturition with acid urine and a mild hematuria, may result simply from abnormally developed excitability of the genitourinary system, produced by conditions closely resembling hysteria. In the absence of better defined objective symptoms of organic disease it would seem that this case should never have come to an operation. Nature, unhampered by the suggestion of operative interference would very likely have worked out a cure.

CASE 2.—G. S., age 32, normal weight 210 pounds, saloonkeeper by occupation, was referred to a hospital with what was thought to be appendicitis requiring operation. After some days' treatment in the hospital under observation both of the

physician and the surgeon, his symptoms subsided, and the case not seeming to call for an immediate operation, he was discharged, under the diagnosis of catarrhal appendicitis.

After leaving the hospital, the patient returned to his occupation, but continuing to lose flesh, his weight then being about 190 pounds, he consulted several surgeons for the purpose of confirming or establishing a diagnosis. By one surgeon his condition was held to be due to appendiceal abscess, with the appendix lying underneath and parallel to the colon; by another, a diagnosis of renal calculus was made. He then consulted the writer, and after an examination of the urine, which was neutral and contained a small quantity of blood and pus, I held to the first diagnosis, believing that the organic elements in the urine were due to the proximity of the abscess, the large number of the symptoms, viz., pain, slight temperature, constipation, recurrent intestinal colic, with occasional vomiting attacks being thought sufficient to turn the diagnosis in the direction of appendicitis. There was no tumor, but the right rectus abdominis was rigid and deep pressure showed tenderness. At the operation I found the appendix non-adherent and non-suppurating, but erect and in a condition of catarrhal inflammation. It was therefore removed, and the wound healed without temperature or complication. Shortly before leaving the hospital, the urine commenced to show a considerable increase in the quantity of pus, the reaction varying from mildly acid to mildly alkaline, and an evening temperature of 100 developed. This was thought to be due to a chronic cystitis, the patient having drank the alkaline Missouri River water for several years. A deep stricture was found and dilated, and the bladder washed out daily. The temperature fell, and most of the pus disappearing from the urine, he was discharged feeling much improved. After a period of about three months the patient returned with a farther loss of weight of about twenty-five pounds, stating that the pain in his side, which appeared to have been relieved by the operation, had returned, together with hectic fever and a large quantity of pus in a neutral urine, accompanied by intermittent hematuria. It then became evident that the diagnosis of stone in the kidney was a most probable one, since there was great and definitely located pain on pressure below the twelfth rib, which could not be said to have existed as definitely before. The pelvis of the kidney was therefore opened and drained. No stone was found, although the needle was freely used in exploring the kidney substance, but the pelvis on exploration was found to contain a considerable quantity of pus, blood and debris. This was thought to represent the extent of the disease. The operation was followed by fall of temperature, and cessation of the symptoms, except the pyuria continued, though less in quantity. The tube remained in the wound for three weeks, and the patient was discharged with a urinary fistula, through which at least a portion of the urine of that kidney made its escape. It was thought that a subsequent nephrotomy would be necessary at no distant date. In two months my good friend returned, emaciated by hectic fever and pain to 140 pounds, and with the urine containing a large amount of pus, but no tubercle bacilli or cheesy particles. At the third operation, which was performed under great difficulties in consequence of the enormous development of fibrous tissue in and around the kidney capsule, at least one-half of the renal structure was found to have disappeared, being replaced by fibrous and granulation tissue and sinuses leading in several directions. No abscess, however, was seen until the kidney had been partially extirpated and drawn into the wound. This procedure was attended by increasing difficulties, owing to the adhesions in all directions requiring a dangerous amount of traction to deliver the organ and its capsule. These adhesions were especially noticeable in a direction upward and behind the liver, and the final effort to free the organ literally pulled out the wall of a large cavity above the kidney and between the liver and diaphragm. After such pedicle as was possible had been formed from the fibrous tissue adjacent to the pelvis, the pedicle was clamped with three large forceps, which were left *in situ*, it being impossible to differentiate the ureter and renal vessels in the mass of adhesions. Attention was then directed to the abscess cavity, from which was cleared out a great quantity of pus, broken-down blood-clot, granulation tissue and partly organized abscess wall. In evacuating this mass of semi-solid debris, my entire hand was introduced between the liver and the diaphragm, barely reaching to the top of the cavity, but not identifying disease either of the lung, liver or spine as the source of the suppuration. The operation was followed by no shock, the fever and pain at once disappeared, and within a week the urine was free from pus. The clamps were removed on the third day and there was no resulting hemorrhage. It was found, however, that a small portion of the kidney had been left in the lower portion of the wound, and from this urine continued to be secreted through a sinus for about two months. There were no other complications, and at the end of three weeks the patient left the hospital. In three months the wound was entirely healed, and the patient at the present time weighs 230 pounds, secretes a normal quantity of normal urine, and is indulging enormously in stimulants.

It is of interest to know that this patient, when about to leave the hospital for the fourth time, finally recollected having fallen heavily against some article of furniture while entering his house one night in an intoxicated condition, and that he spent two days in bed, suffering great pain in the right lower portion of his chest, and that there was some discoloration of the skin over the lower ribs, continuing until about six weeks before he went the first time to the hospital.

This case certainly illustrates to a remarkable degree the vicissitudes of renal surgery. In the light of subsequent developments, some of the errors may seem inexcusable; nevertheless, I was not the only one who fell into them, for two other surgeons had previously made a diagnosis of appendicitis as the pathological condition. It is obvious that the error was based on too little attention paid to the relation of the pain to McBurney's point, and in failing to give the small amount of blood and pus present from the first in the urine their proper value. The temporary improvement in the patient's condition after the first two operations was due to the rest in bed. Again, it is probable that not sufficient care was taken in securing a previous history and a little more careful questioning by his four or five surgeons might have brought out the story of trauma. Too little attention also was paid to the fact that the urine was often acid in reaction, although containing pus and blood; this would have ruled out the theory of cystitis secondary either to stricture or to the drinking of alkali water. Fourthly, the first operation on the kidney should have been a nephrectomy and not a nephrotomy, thus saving the patient the perils of three operations. Lastly, the questions must arise, Was this abscess primarily in or above the kidney, and by what method could it have been located in the absence of bulging of the side and increased liver dullness?

CASE 3.—Mrs. B., came to me with the diagnosis of Bright's disease, having been under treatment for one year for chronic nephritis. I found her suffering with slight temperature, and there was great pain in the right lumbar region shooting into the groin; there was a point of greatest tenderness about two inches above the anterior superior iliac spine, not accompanied by swelling. The urine was acid, contained no casts, but a large quantity of blood, pus and mucus; after filtration there was no more albuminuria than the blood serum would account for, and after repeated examinations, most of the blood, with practically all of the albumin disappeared. She was presently sent to the hospital for a nephrolithotomy, but prior to going there two skiagraphs were taken, the lower end of the plates reaching to the crest of the ilium. On development these proved negative, and the operation was postponed for several days until the urine could be taken from the separate kidneys after Harris' method. The separate urine analyses also proved negative, for the urine from both kidneys was acid,

and contained pus and few blood cells. On account of these negative findings, the operation was again deferred, the patient was put on large quantities of water with urotropin, and the bladder was washed out daily.

Under this treatment she steadily improved, and as there was no recurrence of the pain she was discharged from the hospital and visited me at my office. She gained in weight and comfort for two months, and one day brought in a brownish calculus the size of a navy bean, which had passed without pain. On examination the calculus was found to be rough, but nearly round, and to consist almost entirely of urates. She is now in good health, though pale, and the urine still contains pus and mucus, but no blood.

This case is a typical one of nephrolithiasis, but the negative character both of the skiagraph and the analysis of the separate urines saved the patient from an operation. Had the pain continued, or should it have recurred the indication was clear for operation, but it is plain that neither skiagraph nor separate urine analysis gave any assistance in diagnosing. It is possible, however, that the stone was in the ureter below the field of the plate.

CASE 4.—Mrs. H. In this case a very small stone was imbedded in the right kidney of a stout, gouty woman. Pain, accompanied by the passage of very small particles of gravel, without hematuria, were the only symptoms. The urine was acid, and contained urates. I hesitated to operate until a skiagraph had been taken, which showed a small stone on the right side. At this operation I had occasion to experience the solid comfort which can come from the positive evidence of the shadow found in the skiagraph, for without the testimony of the picture the search for the stone would have been abandoned. On opening the pelvis nothing abnormal was found, and the needle was introduced over twenty times before it encountered a small uric acid calculus the size of a split pea deeply imbedded in the substance of one of the pyramids. The operation was followed by a complete recovery from the symptoms.

CASE 5.—Mrs. B. A case where phosphatic gravel was repeatedly passed, together with blood and pus, and with intense pain located in the left loin. A sound in the bladder found numerous rough, gravelly surfaces and some ulceration. The surfaces were gently curetted and the bladder washed out daily, but there was no relief from the pain, which apparently radiated from the left kidney. No skiagraph was taken, as the symptoms were thought to point sufficiently toward stone in the kidney to warrant a nephrotomy. This was performed without result, the pelvis being thoroughly explored, and the kidney, which seemed perfectly healthy, was repeatedly needled. The wound closed rapidly, with no apparent infection, and the patient was sent home. In four weeks she returned with high fever, chills, and great pain in the same kidney, which was thereupon opened and found to contain multiple abscesses, requiring a nephrectomy, which was performed by Dr. Eisendrath. The wound did well, with the exception of a sinus from the ureter, and six weeks later I dissected out this structure from the kidney incision down to the broad ligament. She then made a good recovery, but still continues to suffer with her bladder, the condition of which seems to be due to a cystocele.

It would appear that this nephrotomy should hardly have been performed wihtout a previous skiagraph, especially since the patient was hysterical and complained of pain in the opposite side. I am also convinced that while the case has been previously reported[3] as one of surgical kidney, it should properly be classified as one of direct infection at the first operation; for not only were the kidney and pelvis apparently normal when I first incised them, but on removing the ureter at the third operation, that tube was found to show neither dilatation nor gross pathological change. If we accept the current definitions of surgical kidney, this one could hardly be classified as such, since the definition implies the spread of suppuration from the bladder up the ureter into the kidney, and must of necessity call not only for evident ureteral dilatation and infection, but also for chronic changes in the kidney and pelvis.[3]

CASE 6.—This was one of wandering kidney in an hysterical French woman, which I report because the condition was not recognized by me while the patient was on the table under an anesthetic, but was discovered by the house surgeon as she was erect and preparing to leave the hospital. The kidney could be brought close up to the anterior abdominal wall and had a decided pedicle. A nephrorrhaphy, after the usual methods, was performed, and although the kidney has been found in place by several surgeons, the patient claims to have sustained no relief from her symptoms.

CASE 7.—A case in which nephrotomy had been performed four months previously by another surgeon, with the successful removal of a stone of considerable size; a fistula persisted, and patient came under my care for relief. On examination the entire secretion from the right kidney was found to be escaping through an opening, remaining at the lower extremity of a very long lumbar incision. An effort was made to close the opening by curettage, and by keeping the patient on the opposite side. This was unsuccessful, and an opening was made embracing the lower half of the former incision, but extending to just above the middle of Poupart's ligament, as in Koenig's incision. The muscles being dissected back and the uninjured peritoneum stripped up, the ureter was disclosed from the brim of the pelvis to the point where it entered the pelvis of the kidney. No visible disturbance in the continuity of the ureter being noticed, a ureteral bougie was passed into the fistula in the hope of finding the ureteral orifice. The search was unsuccessful, except as it led to the discovery that the fistula passed directly through the lower pole of the kidney into the most dependent portion of the pelvis, and that gravity alone, without other assistance, would drain the bulk of the urine into the fistula. But this did not account for our inability to find the ureteral orifice, and a small incision was therefore made in the ureter about three inches below the kidney, through which the bougie was passed upward. On reaching the pelvis it would pass no further, and a careful inspection disclosed the fact that the scar from the original incision had passed through the lower portion of both kidney and pelvis, nearly bisecting the ureter. The contraction of the scar had evidently completely excluded the ureter. After some consideration it was decided to divide the stricture from without, cutting down on the point of the bougie by an incision parallel to the long axis of the ureter, and then to unite this incision—when it became evident that the ureteral orifice was again patent—transversely to the long axis of the tube after the Heinecke-Mickulicz method of pyloroplasty. This was accordingly done and the bougie, after closing the lower ureteral opening, was left *in situ*, the upper end projecting through the fistula. A drain was introduced down to the kidney and the wound was closed. No complication followed the operation, but on withdrawing the bougie, after five days, the urine refused to resume its flow through the original channel. The patient now passes the entire urine from that kidney through the fistulous tract. No nephrectomy was advised, because the urine from the opposite kidney contained some albumin and a few hyaline casts.

This case is instructive in showing that there is danger in too extensive incisions into the kidney substance and that in no case should the knife be carried so far through the lower pole of the organ as to encroach on the ureter. It is instructive also, in showing that the persistence of urinary fistulæ may be accounted for by gravity alone, since in this instance the fistulous opening from the pelvis must in the erect position have been considerably lower than that of the ureter. In such a case it was an absolute waste of time to try to close the urinary fistula or to attempt to restore the patency of the strictured ureter by plastic operation.

CASE 8.—Mrs. G., a tall, pale, neurotic, small-waisted woman of 46, who boasted that she had been attended by twenty-four physicians prior to my own brief ministrations. She submitted to my examination, which was made at the request of her medical adviser, complacently, yet with frankly expressed doubt as to my ability to make a diagnosis, in which opinion I presently joined her. She gave a history of fairly normal pelvic organs, and the urinary examination was negative. Her digestion was impaired and her yellowish pallor showed deficient blood-production, though not sufficient jaundice existed to definitely associate the liver with her condition. There was constant slight pain or discomfort in the region of the ascending colon, and palpation showed an indistinct body encroaching, as it seemed, from behind that structure. The patient stated that the enlargement was of recent date, as she had not noticed it until a year previously. On distending the colon it was found to lie in front of the growth, and the liver, apparently not enlarged, could not be shown to be either continuous with or separated from it. The tumor was fixed, did not seem to move with the slightly prolapsed liver, and could not be pushed into the kidney position. The flank was neither sunken nor swollen. This case has already been presented to a clinic as one of renal growth, that diagnosis having been based on exclusion of the liver, because the distended colon covered the lump. My own diagnosis was withheld because the tumor was indistinct, the other symptoms were obscure, the patient had not failed materially, and the colon relations alone were not sufficient to bring conviction that a prolapsed and adherent liver could be excluded. A preliminary examination under ether was proposed, but was refused by the attending physician on the ground that the patient was hardly strong enough to bear two anesthetics, so she passed on. An operation, performed at a clinic two weeks afterward, for removal of the tumor, disclosed a prolapsed corset liver with omental adhesions. The kidney was normal.

This case illustrates the fact that deductions based on colonic relations are not always to be depended on. The absence of urinary findings was in itself suspicious, though blood and kidney or tumor elements are not present in more than 60 per cent. of renal growths. Again, though the patient was ill-nourished, she was not cachectic and took life rather too easily for one afflicted with a growth of a malignant nature, such as this would probably have been had the kidney really been the offending organ. The case serves also to demonstrate that the elusive nature of the diagnosis of loin tumors should preclude anything like positive predictions as to their origin.

CASE 9.—This patient illustrates the same points and was brought by a suburban physician for the relief of gallstone colic. The patient was well nourished, with a color showing no trace of icterus; the doctor, however, stated that there had been jaundice, and severe colic located near the tip of the twelfth rib. An examination showed a rather movable tumor the size and shape of the kidney, behind the colon and near the edge of the quadratus lumborum, apparently too far back to be the gall-bladder. Urine analysis was negative. A cautious diagnosis of renal misplacement with possible tumor was made, but the incision was brought farther forward than usual, both because of the location of the swelling and in order to reach the liver in case of error. This course proved to be a wise one, for the tumor was a distended and prolapsed gall-bladder with a very long duct, and contained mucus and calculi. Recovery was perfect.

This case was not mine, but I believed the kidney was the organ at fault, simply because it lay adjacent to the usual kidney location and felt very much like that organ. Of course, the negative urinary findings were ignored, as well as the small voice of the country doctor who was posted on jaundice, but had not read up on colonic relations. The case offered also an illustration of the practical working basis furnished by Lawson Tait's observation already quoted, that "the kidney"—or any other organ—"is best reached by the most likely-looking route."

CASE 10.—This case is introduced to demonstrate that the gall bladder may prolapse in front of, as well as behind the colon. The patient was brought to the city by her physician for an operation for appendicitis. When I saw her there was a not very tender tumor lying close to the abdominal wall, slightly above McBurney's point. Temperature and active symptoms had subsided, but the tumor continued. I made an incision without attempting a diagnosis, and found a prolapsed gall-bladder containing calculi and some pus mixed with mucus. There was recovery with a biliary fistula, taking a year to close.

CASE 11.—T. C., aged 24, weight 110, family history tuberculous, and patient himself had had chronic cough and night-sweats for a year, with progressive emaciation. Right apex consolidated. A few days prior to admission to the hospital he was taken with colic, vomiting and constipation, and the right rectus abdominis became rigid. The abdomen was not distended and the temperature ranged a. m. 99, p. m. 101, with sweats at night. Pain was constant, but the vomiting and constipation disappeared shortly after admission. Urine analysis negative. There was no definite history of other attacks. Although the symptoms pointed strongly to appendicitis, the tendency of the pain to locate itself rather higher and more posteriorly and deeply than in appendicitis was thought worthy of consideration. Operation was withheld for thirty-six hours on account of these doubts, but there finally seemed no good reason to question the diagnosis of appendicitis. My house surgeon performed this operation, and was instructed to incise higher and more posteriorly than in an ordinary appendectomy incision. He was so convinced, however, that he was dealing with appendicitis that an incision was made over McBurney's point, which presently had to be extended four inches higher to reach a peri-nephrectic abscess containing several ounces of pus of tubercular origin. The appendix was not involved.

This case and Case 2 warn us that all abscesses covered by the ascending colon are not from the appendix. Taken with the preceding—Case 10—we note also the value of McBurney's point in establishing or excluding a diagnosis of appendicitis, for in Cases 2, 10, and 11 the spot of greatest tenderness was quite a little above that point. Pain radiating to or from the loin or liver is also of value in excluding appendicitis, for, though lumbar pain has occasionally been noticed, I doubt if in a great percentage of appendiceal disease the pain radiates in any other direction than toward the navel. We see here also that, other things being equal, the point of greatest tenderness is the point for incision, even when the diagnosis seems reasonably certain.

Cases 11 and 9 illustrate, respectively in a negative and positive way, the value of not allowing theoretic ideas to divert the surgeon's approach to the point of difficulty from a route manifestly in accordance with common sense, to one based on a preconceived theory of diagnosis.

CASE 12.—This was a man of 50, with a very large round tumor under the left ribs, extending downward into the loin and abdomen, and pushing the colon toward the median line. The progressive emaciation and cachexia pointed to trouble of a serious nature, but diagnosis was withheld until an exploration was made through the abdomen. On reaching the growth it appeared to be the spleen. The wound was closed without proceeding farther and the patient presently went home no worse than before, taking treatment for splenic enlargement. After some months he returned for operative relief, requesting removal of the offending spleen, which was undertaken after advising him that his chances were small for recovery. An incision was again made across the peritoneum, and the tumor was found to be a carcinoma of the kidney which had attached itself to the spleen and had dragged

that organ below its normal location. The kidney was removed.

This case did not occur in my practice, but it is so remarkable, and illustrates so perfectly the unusual distortion of normal relations which occur in renal tumors, that I add it to my list. Roberts[4] describes a similar example of misplaced relations, the recollection of which led me into an error in locating the spleen in Case 14.

CASE 13.—E. C., aged 47, traveling man, temperate, always healthy until February, when he commenced to emaciate and suffer with pain in right side near twelfth rib. In April a tumor which seemed to be the focus of the pain appeared behind the colon and at outer edge of quadratus lumborum muscle. In May he came under my care after having been in bed for several weeks. He was sallow but not jaundiced, had lost forty pounds; there was an evening temperature of 100.5, no chills, no night sweats, no cough, bowels were open and tongue moist; the urine was loaded with urates, but contained no albumin, peptones, or organic elements; blood examination showed no increase of leucocytes. Spleen was not enlarged. The liver seemed to be enlarged upward, dulness reaching to within an inch of nipple and no lung sound below that line. The liver dulness extended higher posteriorly also, reaching to seventh interspace, and the lung sounds were not clear below that line. Change of position produced no change in the line of dulness, and an exploratory puncture withdrew no fluid. Below the liver and behind the colon a hard tumor had pushed itself into the flank between the twelfth rib and the iliac crest. It occupied a space about three inches in diameter, was irregular in outline, and seemed slightly movable, though not with respiration. It was not so tender but that it could be handled to test its mobility; it was continuous with the lower and posterior outline of the liver, but also lay on the quadratus in the kidney region. The temptation to make a diagnosis of malignant growth, with the patient's age and cachexia as a basis, was a strong one—in fact the patient had been told that he had a cancer of the kidneys. Granting malignancy, however, there seemed no good reason why the liver might not have originated the growth from its dorsal border. But the lack of jaundice and indigestion, and the absence of blood and organic material in the urine, looked away somewhat from cancer of liver or kidney. The temperature, tenderness, and febrile urine pointed toward inflammation, at least as a complicating factor in the problem; but the normal blood-finding and absence of peptonuria negatived the idea of an abscess. It would appear in this case that the diagnosis should lie between an inflamed malignant growth of either kidney or liver, and an inflamed gall-bladder with omental adhesions possibly concealing an abscess. In the absence of convincing proof of the existence of any of these conditions the patient was informed frankly of the dilemma and advised to submit to an exploratory operation. He consented, and an incision parallel to the quadratus was made directly over the tumor. On reaching the deep fat, evidences of inflammation appeared, and on pushing forward the peritoneum to separate the tumor there was a gush of thick material made up of fibrin, blood-clots and pus to the extent of eight ounces. On introducing several fingers into the sac the liver and peritoneum were found to lie anteriorly and the kidney and diaphragm posteriorly. The fluid continuing to flow after the sac was evacuated, the index finger traced the discharge to an opening beneath the ligamentum arcuatum externum of the diaphragm. Through this, access was had to the pleural cavity, and by the same route between one and two pints of the same thick fluid was presently evacuated. A microscopic examination of the material showed it to be made up of old blood, fibrin, unrecognizable shreds and a few pus-cells. Two drains were introduced, one into the abdominal sac, which had collapsed as soon as it was emptied, and another under the ligamentum arcuatum externum into the chest. The patient made a good recovery, although he hiccoughed a great deal, I think on account of the pressure of the tube passing through the diaphragm.

During his convalescence he stated that in January he fell from a chair on which he was standing to light the gas, and struck his side against the chair-back. He paid little attention to the injury, the pain disappeared in a few days and the circumstance passed out of his memory.

Cases 2 and 13 illustrate exquisitely the fact that many men of sturdy constitutions often sustain serious injuries which they presently forget in the stress of business and other activities; after a lapse of time disease appears, insidious in its course and mysterious in its manifestations, because the real cause has been put aside as inconsequent and forgotten.[5] Such cases—most of them with a strong elementary foundation, I think, in passive inflammations occuring in slight and neglected traumas—usually prove enigmas, impossible jumbles without any correct key available prior to operation, but clear and consecutive enough when looked back upon as completed pictures.

CASE 14.—Mary M., aged 24 months, very hearty and happy—in fact, a little over-nourished. There were no pathological changes in the urine, no hematuria, no pain in the side, even on freely handling a tumor which protruded noticeably into the left loin, apparently coming from behind and above. The lump was smooth but somewhat irregular, and proved on rectal insufflation of air to lie behind but intimately associated with the colon. The latter structure seemed to run in a kind of groove on the tumor. The spleen was not to be made out in its normal location. The tumor could be shifted in all directions, though swinging from a central point near the normal location of the kidney. Manipulation was made the easier by a smaller lump, the size and shape of a small apple, which projected from the lower pole. The growth was an irregular sphere averaging about three inches in diameter, and we took it for a renal sarcoma which had contracted attachments to the spleen, carrying the latter below and to the outside of its normal position. The colon was thought to lie in the groove, partially separating the two organs. In support of this view a case of cancer in a man aged 44, cited and diagramed by Roberts, was recalled, in which the spleen, usually pushed by renal growths well up under the diaphragm, was carried downward toward the iliac fossa in front of the mass.

It was decided to make an exploratory operation, to be followed by more radical measures should they seem to be justified. The loin was opened by an incision from the twelfth rib to one-half inch above the iliac crest and parallel to the outer border of the quadratus. This incision was afterward continued forward nearly to the rectus, dividing everything down to the peritoneum. That structure was not divided, but together with the colon and much subperitoneal fat, was held back by sponges. On reaching the kidney the following observations were made: 1. It was non-adherent to anything, being held merely by its own normal pedicle; 2, the spleen was in its usual location and not in any way attached to the kidney; 3, the small lump was the lower pole of the organ, and not yet involved in the tumor which had developed in the upper part of the capsule; 4, the growth had pushed the kidney over so that the pelvis lay in front and to the outside; 5, the incision was ample for purposes of removal. Accordingly, the mass was peeled away with the fingers from the peritoneum in front and the lumbar muscles behind, without encountering hemorrhage, adhesions or other difficulties, and by depressing the edges of the wound, it could be brought entirely out of the incision without traction on the pedicle. Two long-bladed forceps clamped the pedicle, overlapping each other from above and below. The tumor was then removed and the pedicle tied with silk, the ends being left long and hanging from the wound. No especial effort was made to isolate the ureter from the vessels, and a small portion of the pelvis distal to the ligature was left in the wound. I could find no glandular metastasis. Astonishingly little hemorrhage taking place, the cavity was packed and drained, and the extensive muscle and skin incision was brought together by catgut and silkworm sutures. There were no complications except a temperature

developing on the third day after removing the drainage tube; on returning the tube the temperature fell, about an ounce of thin purulent fluid escaping which had probably been infected from the stump of the ureter. Eight weeks after the operation the silk ligatures came away and the wound closed immediately thereafter. The patient is in excellent health and shows neither cachexia nor emaciation; the abdomen is larger than it was prior to the operation the bowel appearing to have lost some of its tonic contraction, but a tight binder is reducing the protrusion. The kidney and tumor weighed about eighteen ounces, and a report of the pathological examination made by Mr. Ready, of St. Luke's Hospital is appended.

Six months after the nephrectomy, this patient was brought back to me with a recurrence of the growth at the site of the original operation. The recurrent tumor is considerably larger than the original growth, and so diffuse as to be inoperable. She is now under treatment with mixed toxins.

In analyzing this case several points of interest are developed: 1, the diagnosis of organs involved and the kind of tumor; 2, elements entering into the choice of operation; 3, What were the errors in the operative technique?

A tumor appearing in the left loin of a fat and healthy child of 2 years could hardly be anything but a sarcoma—syphilis of the spleen, tabes mesenterica, retained feces, or congenital cysts, need hardly be considered. Hydronephrosis rarely produces a lobed tumor, nor did the growth fluctuate in size. The absence of history of trauma, as well as the age of the child, pointed toward a congenital growth. So, also, its painless and non-inflammatory development—without adhesions—occurred almost as smoothly and quietly as in the normal evolution of a normal organ. That the kidney should have turned halfway round on its long axis, between the peritoneum and the loin muscles, and neither have contracted adhesions nor haye produced trouble through traction on the vessels, etc., in the pedicle, is certainly a remarkable evidence of the plastic character of infantile structures. The fact that this tumor is within its own capsule as well as within that of the kidney, and that the kidney tissue around and below it was still healthy and evidently performing its function, points toward the retention of fetal, but unhomologous elements within the kidney stroma as the starting point of the growth. I am disposed to regard it therefore as arising from the pronephros as described by Grawitz and Klebs,[8] although Mr. Ready describes it as an adenosarcoma, without referring to its origin. A curious fact is noted by König[9] that these sarcomas are much commoner in girls than in boys. As to a diagnosis of the organs involved, this also appeared easy, for the tumor had not yet attained sufficient size to push the colon toward the median line, and away from its normal relations to the kidney. To call the smaller lump the spleen, however, was hardly excusable, for a moment's thought would have shown, that so freely movable and uninflamed a growth could never have contracted adhesions to the spleen sufficient to drag it halfway down the abdominal cavity and around the splenic flexure of the colon. Such dislocations of the spleen are rare and, as in Case 12, and in Roberts' case, cited above, occur only in older persons with carcinoma of growth slow enough to produce intercurrent inflammations with resulting adhesions.

The comparatively small size of the tumor and its early recognition afforded ample justification for its removal. This growth weighed about one pound. König[10] has removed some of enormous size, weighing up to ten pounds, without immediate death. Nevertheless, the immediate mortality in nephrectomy for tumor is appallingly high, both König and J. W. White quoting Sigrist's statistics of 64 operations with 32 deaths attributable to the operation alone. Of these 64 patients only 5 were alive at the end of two years, and but one of Kronlein's series of 5 cases lived four years in good health.

As to the choice of operations, I believe the lumbar route by Konig's[11] long-curved incision, with the operation field lying entirely outside of the peritoneum, was the best in this case. Jacobson[12] also prefers this incision where tumors are of moderate size and without dense adhesions.[13] He concludes that the König incision is the one of election in all those cases where the peritoneum can be pushed to one side and the tumor is not too large for a loin incision. As showing the statistical argument for and against both methods, König[14] gives the following for what they are worth:[15] Immediate death after transperitoneal incisions 58 per cent.; immediate death after extraperitoneal incisions 24 per cent.; recorded recurrence among survivors of transperitoneal incisions 5 per cent.; recorded recurrence among survivors of extraperitoneal incisions 41 per cent. König, therefore, thinks it an error in the interest of radical work not at least to consider the transperitoneal route. J. W. White, also, thinks that with large tumors and more modern asepsis the transperitoneal operation is slowly gaining ground.[16]

Let us now seek, briefly, to summarize the errors with which the foregoing fourteen cases appear to have been fraught. Roughly classified, the miscarriages appear to have resulted from a violation of one or more of the following principles:

1. The surgeon should not attach too great weight to the recollections or the subjective symptoms of the patient, unless borne out by the physical signs. Thus the tale told by the patient with corset liver —Case 8— that her "tumor" appeared during the previous year must have been a fabrication, though she herself may also have believed it. In like manner the ill-starred schoolmaster went to his fate because his surgeon, in the absence of objective manifestations, did not cultivate a wise and conservative skepticism of the patient's ability to make his own diagnosis.

2. On the other hand, due weight should be given to statements made by intelligent patients, especially in cases where the objective testimony is abundant, but confusingly contradictory. Every legitimate opportunity should be offered the patient to establish a sequence of disease. Careless history-taking is responsible for more than a little obliquity of diagnosis. Thus, in the gathering and arrangement of minute and seemingly inconsequential facts, the two cases of traumatic abscess (2 and 13) might have been spared a good deal of perilous delay, and the surgeon a good deal of humiliating mystification, had the relations between trauma and tumor been sufficiently indicated in the history.

3. It is an error in patnologic conditions to place too great reliance on relations normal to the healthy individual. It is probable that exaggerated stress has recently been laid especially on certain normal relations of the colon, and that numerous absolute and exclusive diagnoses have been based on supposed correlations between tumor and colon, which were hardly borne out by subsequent operative revelations. (See Cases 8 and 9.) No diagnosis of tumor or structure is complete until consideration has been given to the possibility of the encroachment by organs or growths on the normal

sites of organs which *prima facie* evidence would lead us to believe to be the ones involved. In this connection, it is interesting to observe how easy it is to regard as pathognomonic certain signs happening to be much discussed in current literature (Case 8), and also how easy it is to think two cases identical because they happen to bear a certain superficial resemblance (Case 14).

4. It is an error, even in the presence of conditions which seem pathognomonic, to neglect every diagnostic resource, and to follow up each resource faithfully to its logical conclusion. Thus, in Case 2, the blood and pus in the urine, and the valuable deductions to be made therefrom, were ignored; in Case 3 the urine was probably not filtered, and a diagnosis of Bright's disease was made on the mere existence of albuminuria; in the same case, although a skiagraph was taken, the plate was so placed as to fail in taking the entire urinary tract, and a stone was, probably on that account, overlooked. In Case 5 a skiagraph was entirely omitted and no stone was found. It is difficult, at the present time, to justify a nephrotomy, undertaken for the avowed purpose of removing a calculus, where a preliminary skiagraph has not been prepared. Although it is contended that pure uric-acid calculi fail to give a shadow, this is hardly at present a matter of sufficient demonstration to warrant such an omission in every case of suspected calculus. The negative testimony afforded by the absence of shadow may lead to a revision of diagnosis and treatment not particularly productive of glory to the operator, but often of incalculable benefit to the patient.

In this connection it may be well said that no class of cases more than these calls for such careful and persistent observation of the physical signs, and the hourly record of temperature, urine, etc. Thus, in Cases 5 and 14 the temperature chart revealed abscesses, which might have proved fatal in the absence of the record and deductions based thereon. In Case 13 a more careful working-out of the physical signs might have pointed even prior to the operation to a subphrenic abscess.

5. Among operative errors, may be noted the failure to properly care for the ureter in Cases 5 and 14. The ureter should be ligated with catgut and brought separately into the wound after cauterizing with carbolic acid; or, better still, should be inverted a short distance and stitched. Kidney stumps should not be ligated with silk (Case 14). Too deep incisions into the kidney structures are dangerous and jeopardize the subsequent integrity of the pelvis and ureter (Case 7). The kidney and the operation wound should not be closed primarily after nephrotomies. Drainage for a few days, at least, is much safer and may save a subsequent nephrectomy. (Case 5.) A kidney which is riddled with sinuses is best removed; conservative measures only lead to another operation. (Case 2.) It is an error to base an incision on any preconceived idea of diagnosis. Rather follow Tait's rule that "the kidney is best reached by the most likely-looking route." (Cases 9, 10, 11 and 13.)

NOTES AND REFERENCES.

1. Jacobson: Operations of Surgery, 3d ed., p. 714.
2. Loc cit., pp. 715-716.
3. Chicago Medical Recorder, 1899. Also Century Dictionary: "Surgical Kidney is a term somewhat loosely applied to chronic nephritic conditions arising from trouble farther down in the urinary tract, but especially to pyonephrosis arising from a cystitis."
4. Roberts: Urinary and Renal Diseases, 4th ed., p. 525.
5. An interesting consideration of this class of cases is found in Paget's Studies from Old Case Books under the title "Obscure Cases of Caries of the Spine." He calls them "quiet diseases."
6. Roberts: Loc. cit.
7. Extirpated kidney, weighing 12½ oz., measuring 4x3½x3x2½ inches. Macroscopical examination: Both poles and a portion near the hylus show normal kidney substance; the remainder is occupied by a bulging tumor mass; near the lower pole the tumor extends 2½ inches above the niveau of the external surface. Section shows a soft growth measuring 3½x3x2 inches, extending from the capsule of the kidney (near the lower pole), and bulging into the pelvis. The tumor shows in places a tense fibrous capsule, from which it can be separated with some difficulty. The portion projecting above the niveau of the kidney is covered only by kidney capsule. Microscopical examination: Sections show epithelial cells traversed by bands of connective tissue, and without any characteristic arrangement. There are also large masses of cuboidal epithelial cells in groups of tubules, especially well marked in sections taken from the center of the growth. Near the periphery these neoplastic acini and tubules almost disappear. The tumor is quite vascular and hemorrhagic. Diagnosis: Adenosarcoma.
8. König: Spec. Chir., ii, 635.
9. Loc. cit., p. 636.
10. Loc. cit., p. 636.
11. Loc. cit., p. 654.
12. Jacobson: p. 753.
13. In this view he is opposed by K. Thornton, and an interesting analysis of the arguments for and against the intraperitoneal and extraperitoneal approaches to the kidney and its tumors found on pages 737 and 764 loc. cit.
14. König: p. 638.
15. These statistics are fundamentally deceptive and König himself warns against basing any deductions on them. The reason is quite obvious.
16. Dennis: Syst. of Surg., iii, p. 475.

DISCUSSION.

DR. J. E. OWENS—I have but little to say about this valuable paper. It reminds me, however, that long since diagnosis was defined to be the "science of probabilities." The cases reported are certainly very interesting and instructive. The paper, being a report of a series of cases in which errors are more or less mingled, is more useful than a report of a series of successes. I have always thought a carefully-prepared paper on deaths after operations well worthy of the consideration of any society, particularly of a surgical society; and likewise a paper on errors of diagnosis and unexpected aberrations encountered in operative surgery. But how rarely are such papers presented. It is very natural for us, even the older members of the profession, to report successes, leaving the less fortunate cases as silent teachers for ourselves. It will stimulate us to be more fearless in relating some of the complicated problems met with in practice.

I have failed with the needle to find stone. No further operative steps were taken in these cases as a promise was exacted beforehand, that if we did not find a stone we should not operate. Many times since the period I am about to speak of, I have asked patients "Were you drunk?" This was suggested to me by one of my cases. A saloon-keeper sent for me one night on account of a severe sticking, or lancinating pain in his side. He said he had not been hurt, and that he knew of no reason for his trouble. I put my ear to his chest and discovered a friction sound, so I said, "Put a blister upon the part complained of and I shall call again." Two days later the patient said, "You are not in it. I had the pain so badly I sent for another doctor and he fumbled about my chest and found a broken rib." "How did you get a broken rib, as you said you were not injured?" "I will tell you; I was very drunk and the folks told me a man said he could throw me, and he did."

Loin pain in appendicitis is often very severe. I had an attack of appendicitis some years ago and experienced intense pain far back in the loin, as well as in the appendiceal region. Other such cases have come to my notice. The use of silk in such operations is not desirable. It will almost certainly come out or give trouble sooner or later. I have had it do so in nephrectomies, and in other operations. I remember well an operation for a large venous varix extending from the armpit to the crest of the ilium. Seventy-five to one hundred silk ligatures were employed. During the following five or six months many of them came away or had to be removed.

DR. D. A. K. STEELE—I quite concur in the suggestion of the President that if we could have a society of surgical and medical pessimists it twould be a good thing. I believe there is such a body in London, where no fellow is allowed to report his successful cases, only his failures. We might once in a year or two have such a meeting with profit.

Some of these cases remind me of a personal experience along the same lines where a subdiaphragmatic right abscess was overlooked and mistaken for disease of the kidney. Two such have fallen under my observation. In neither was there a history of preceding injury, although undoubtedly an injury may have been precedent. The question whether the patient had been intoxicated was not asked. One of these cases was in the service of another physician and I was present at the operation. The kidney was incised under the impression that it contained a stone. It was explored with a needle and unnecessarily handled, and just before the kidney was closed up the abscess was accidentally discovered and drained, but the patient did not recover.

One of the cases reported by Dr. Allport, No. 12, seemed to me incomplete, because he did not tell us what became of the patient. A case of interest in this connection came under my observation three years ago, a colored man, 56 years of age, who had been under the care of Dr. Quine for some weeks for persistent pain in the region of the right kidney. He examined him, treated him for some weeks and made a diagnosis of stone in the kidney. I saw the case in consultation, and he was subsequently placed under my care at Wesley Hospital with the request that I operate. I do not know why, but I had an idea there was some mistake in the diagnosis; the operation was fixed for two different days and postponed by me on account of doubt as to the propriety of operating, and then I asked Dr. Danforth to see the case. He said the symptoms pointed to stone in the kidney and it was a case for operation. This was Saturday, and I said we will operate Monday. I called to see the patient Sunday; he had eaten a hearty dinner and was laughing and joking, when he suddenly complained of feeling faint, said, "I cannot see anything" and fell back on the bed; in ten minutes he was dead. I made the post-mortem examination and found that he had a ruptured aneurysm that was overlooked. Fortunately for me I postponed the operation until nature ended his life; had I operated we would have had a death on the table. The kidney was normal, but displaced by the aneurysm behind it; there was only a quart of blood behind the kidney. It was an aneurysm of the renal artery. There is another class of cases, two of which I have under observation now, and have had during the past year, in which there are classical symptoms of stone in the kidney, in which I have declined to operate because the skiagraph fails to show the presence of the kidney stone. For the last year I have availed myself of this aid to science in diagnosing stones, and not finding them in the skiagraph I decline to make a positive diagnosis.

DR. L. L. MCARTHUR—In the series of cases reported by Dr. Allport, reference is made to the appearance of a few blood-corpuscles and pus-corpuscles in the urine, and yet the case was suspected to be appendicitic. Although there has not yet been any paper written calling attention to this fact, it is nevertheless a fact that blood-corpuscles in quite liberal number, and even albumin accompanying them sufficient to give a nitric-acid reaction, will be present in a certain small percentage of cases of appendicitis. I have had four cases in which it was difficult to decide whether it was renal colic or appendicular colic, and still more difficult after a microscopic examination and finding blood. In two cases in which the temperature seemed to be out of all proportion for renal colic, operation was had and gangrenous appendicitis was found, although bloody urine, vesical tenesmus, and albumin were found in the urine, and those symptoms which go with renal colic were present.

As to skiagraphs of stone in the kidney, I presented a paper before the Chicago Medical Society with skiagraphs of all varieties of renal stones, and at that time called attention to the fact that we must not look for a distinct shadow from renal calculi of organic origin. For instance, uric-acid calculi are probably the most frequent of all calculi, amounting to nearly 89 per cent. Uric-acid stones cast almost no shadow on the plate itself and how much less when it is to be observed through the body.

I returned to the city this evening from a case to which I was called at Columbus, Wis., that had been under the observation of three doctors for three years—a woman 58 years of age, the mother of a large family, who for three years has been complaining of obscure pains in the right loin. She had some yellowness of the skin and presented a tumor movable in respiration in the right loin in the neighborhood of the kidney. I was called to see the case because it was supposed to be a tumor of the kidney. Uranalysis was negative. On examining the case this morning a tumor was very distinctly to be palpated, which moved with respiration, and by bimanual palpation moved backward and forward as well as up and down, but the colon had not been inflated. So I inflated that and found the tumor lying anterior to the colon. That, taken with the fact that the colon was very distinctly palpable and the patient was icteric, led me to believe that it was a tumor of the liver or distension of the gall-bladder. I made a diagnosis of tumor of the liver, probably ecchinococcus and not malignant, because the patient had not emaciated. An exploratory incision was advised and enlargement of the incision to remove the trouble if found feasible. A small incision was made to the outer margin of the rectus and a corset liver found, a lobular elongation shaped like the kidney. The kidney was perfect, distinctly palpable behind it, of infantile size, nothing in the pelvis and the gall-bladder very small. Nothing was to be found in the neighborhood of the ileum, or pancreas. Such mistakes can be made as Dr. Allport describes in his paper without any reflection being cast on the surgeon. At one of the meetings of the British Medical Society, for a presidential address, Paget read a paper entitled "Necessary Errors in Diagnosis." A logical conclusion can not but be drawn from the premises furnished, sometimes the premises are false and therefore your conclusions false. Jacobson says, any operation which justifies exposing the kidney for handling also justifies the exploration of that kidney with the finger. I think it extremely difficult, even with the finger, to find a stone; I know they are overlooked, I have done it myself; how much more difficult is it with the needle! I chanced to be present at the operation on the 14th case reported by Dr. Allport, and as he was about to amputate his ligatures I suggested that he leave one long so as to extend out of the wound. I think that extremely wise, because they do suppurate frequently. If you have an end, you can take hold of it and you can get them out by a small amount of continuous elastic traction.

DR. D. N. EISENDRATH—Case No. 1 seemed to come under the class of hysterical pains which are so frequently met in viscera, the stomach, spleen and kidney; they come under the head, in this case, of nephralgias. The second case was one of hematuria, without apparent cause until afterward trauma was found. I was interested because there are so many cases of hematuria without apparent cause which are due to tuberculosis. I read a report of a case in a German journal of very severe hematuria coming on suddenly in a patient without tubercular history, but operation showed typical tuberculosis of the kidney.

The case on which I did nephrectomy during the absence of Dr. McArthur from the city, in 1898, was undoubtedly a surgical kidney; it was an ascending pyelonephritis, and was hardly of the variety in which infection could have taken place except from the bladder upward. It is not likely that infection at the time of operation would have caused this form of infection of the kidney, which most frequently ascends from the bladder, passing upward through the ureter. Weir reports four cases in which surgical kidney was strictly unilateral, so I think the infection came from the bladder, and not from the previous operation.

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**Painful Limping from Uteropathy.**—De Luca writes to the *Riforma Medica* of February 7, describing three cases of lameness in women, owing to severe pains that appeared at the first steps or after walking a certain length of time. The pains affected the various groups of muscles in the lower members, and disappeared when the patient sat or reclined. The hobbling gait was traced to the influence of displacement of the uterus, retroversion, lateroversion or prolapse with anteroversion. Alexander's operation in one case cured the limping and pains at once. In the others there was no operation performed.

# THE RELATION OF INDICANURIA AND OXALURIA TO GASTRO-INTESTINAL FERMENTATION.

J. A. WESENER, PH.C., M.D.

CHICAGO.

The object of treating such a large subject in one article is, if possible, to determine if there is a relationship between the excreted indican and oxalic acid, and the bearing these bodies have on gastro-intestinal fermentations. Harnack[1] has shown most conclusively that when oxalic and sulphuric acids are given to dogs per stomach or per os, indicanuria is produced, the sulphuric acid producing not so intense an indican reaction as when oxalic acid is used. He further shows that the subcutaneous injection of even .06 gram of sodium oxalate is followed by indicanuria. He raises the question whether indicanuria is associated with pathologic oxaluria. This is one of the questions which I have tried to solve. The putrefactive bases are formed in the small intestines and are known as indol, skatol and phenol. They are also often spoken of as the aromatic compounds. By the action of the pancreatic juice the proteids are changed into alkali, albumin, proteoses, pepton, leucin and tyrosin. The proteoses are still further broken down by the action of bacteria, the aromatic bodies being some of the products formed. These are absorbed and changed into the potassium sulphate salts, indican being the postcedent of indol. Jaffe[2] has pointed out that the amount of indican is relatively proportionate to the degree of putrefaction. Diet is an important factor in the production of indican. It seems that a vegetable diet does not produce these aromatics. Rosin[3] found the urine of rabbits to be free of indican. Hoppe-Zeyler[4] and Peurosch[5] showed that in order to produce indicanuria in these animals it was necessary to feed them either orthonitrophenol proprionic acid, or give them meat. As yet it has not been positively demonstrated that indican is produced anywhere in the body except in the intestinal canal.

Harnack,[1] however, believes that the indicanuria following the subcutaneous injection of small doses of sodium oxalate can only be accounted for as being of metabolic origin. He argues that as oxalic acid is a severe protoplasmic poison, its action would produce such changes in the living tissue as might lead to indican formation.

To support this view, Nencki[6] and Kühne[7] produced the aromatic bodies by heating proteids with potassium hydrate. Salkowski[8] and Jaksch[9] believe that indol can be formed in the tissues by the abnormal decomposition of this. Keilmann[10] believes that he demonstrated that in pus formation indican is produced. This would be entirely independent of intestinal origin. Rosenbach,[11] Senator[12] and Concetti[13] think indicanuria is found in many diseases, especially of children, in whom it is not of intestinal origin, but due to decomposition of proteids in the living tissue or to changes in the tissues themselves. Senator,[12] Rosenbach[11] and Mazetti[14] found that the urines of new-born infants do not contain indican during the first year or so. In cholera infantum and in tuberculosis it was always present. Momidkowski[15] finds indican in infants before they begin to nurse; after that it disappears.

I will show later that the milk is probably the important factor in the prevention of putrefaction in the intestine. It seems, from the literature, that when indican is found in the urine of infants, it always denotes some grave intestinal disorder. Against this view of indican formation, outside of the intestinal tract, is Beckmann.[16] He examined twenty-five cases suffering from suppuration and found an increase of indican in only six of the total number. Müller[17] says the indicanuria of inanition can only be considered as of intestinal origin.

We can readily understand how in cystitis incited by the colon bacillus and proteus vulgaris indican could be formed in the bladder. In 116 sweat analyses made for Dr. Hoelscher I was able to demonstrate indican in a very few. This does not prove that the indican thus found was not produced in the intestine, nor that it may not have been formed in the pores of the skin by the action of bacteria living on the proteids of the sweat itself.

The presence of oxalic acid in the urine was first demonstrated by Wollaston,[18] and later verified by Fourcroy.[19]. The constant elimination was demonstrated by C. G. Lehman, [20] W. Kühne,[21] Schultzen[22] and Fürbringer.[23] The amount excreted daily is as yet unknown. Schultzen[22] gives it as .05 gram; Fürbringer,[23] .02 gram; Dunlop,[24] .017 gram, and Baldwin,[25] as being less than .01 gram. The last three figures are probably nearer correct than the first. It was not until Dunlop's[24] method was used that anything like correct and concordant results were obtained. This is readily understood when one considers that the amount being so small any slight error in the analysis would ruin the final deductions absolutely. Dunlop[24] believes that the small amount of oxalic acid eliminated daily is taken in with the food, and therefore is not produced in the body.

Gaglio,[26] from his experiments, concludes that oxalic acid is not readily oxidized in the body. Wesley Mills,[27] in his experiments, later verified by H. Lüthje,[28] came to the conclusion that oxalic acid does not disappear from the urine of starving dogs, and when meat alone is given the amount excreted is increased very materially. From these facts they conclude that oxalic acid is one of the end products of proteid metabolism. Helen Baldwin,[25] feeding dogs on meat, was able to stop the oxalic acid elimination absolutely, and Dunlop[24] demonstrated that a milk diet would do the same. Wöhler[29] and Frerick[30] believe oxalic acid to be an oxidation product of uric acid. Neubauer,[31] Salkowski,[32] Fürbringer,[23] and Hammerbacher,[33] feeding uric acid to dogs, were unable to produce an increase in oxalic acid. Salkowski[32] found that a diet of thymus gland did not increase it. Prout[34] and Schultzen[21] found oxaluria associated with diabetes and icterus. It may be of interest to state here that Salkowski[32] has recently shown that 1000 grams of cow's liver contained .012 gram of oxalic acid. Reale[35] and Boeri[36] believe that oxalic acid is produced in the organism when there is imperfect aeration of the tissue. Aside from the above statement, there are some cases, according to Smoler,[37] Cantani[38] and Hass,[39] where there was noticed an abnormal increase in oxalic acid excretion without any other prominent symptom. This excess formation probably was due to an abnormal metabolism.

Table No. 1 gives a series of twenty urines, most of them containing indican and oxalate crystals. The total acidity and alkalinity are given here, with the object, if possible, of determining the cause of the precipitation of oxalate of lime crystals. The total acidity was determined by using a decinormal sodium hydrate solution, phenolphthalein being used as an indicator. The

results thus obtained were figured as total hydrochloric acid. The total alkalinity was determined by using a decinormal hydrochloric acid solution, dimethylamidoazobenzol being used as an indicator. The results were figured to sodium hydrate. At a glance it is seen that the precipitation is not due to acid strength, nor to alkaline strength. Neubauer[30] and Dunlop[23] both believe that sodium acid phosphate and possibly other substances prevent precipitation. Especially is this true of urines with high acidity. My work, and also that of Baldwin,[25] shows that high acidity does not prevent precipitation. Moddermann[42] believes precipitation occurs when the sodium acid phosphate changes to the neutral or alkaline phosphate. The precipitation is not understood; concentration, high or low specific gravity, acidity, alkalinity, neutral reaction, none of these explain the precipitation. Dunlop[23] says that oxalates are only found in the urine as octahedron crystals, and that the dumb-bell forms are calcium carbonates. I find that several forms of oxalate crystals are produced from pure calcium oxalate. Besides the octahedron variety, there are also dumb-bell and prismatic forms. This agrees with the work of Salkowski[43] and Baldwin.[25]

Table No. 1.

| Number. | Reaction. | Specific Gravity. | Urea; per cent. | Indican. | Oxalates (500 x diam.). | Acidity for 1000 c.c. as HCl. | Alkalinity for 1000 c.c. as NaOH. |
|---|---|---|---|---|---|---|---|
| 1 | Acid | 1025 | 3.4 | Absent | Absent | 1.387 | .68 |
| 2 | " | 1027 | 2.5 | Faint... | 1 to field | .749 | 3.2 |
| 3 | " | 1026 | 1.7 | Fair... | 1 to field | 1.715 | 1.56 |
| 4 | " | 1014 | 1.4 | Faint... | 3 to field | 1.825 | 1.4 |
| 5 | " | 1019 | 2.2 | " | 6 to field | .876 | .88 |
| 6 | " | 1025 | 3.2 | " | 20 to field | 1.35 | 1.28 |
| 7 | " | | | Absent | 1 to 10 fields | 2.37 | 1.6 |
| 8 | " | 1024 | 2.2 | " | 8 to field | .803 | 1.8 |
| 9 | " | 1027 | 3.3 | Faint... | 10 to field | 1.314 | .76 |
| 10 | " | | | Absent | 8 to field | 1.659 | 1.6 |
| 11 | " | 1031 | 3.3 | Heavy.. | 1 to 3 fields | 1.825 | 2.32 |
| 12 | " | 1029 | 3.0 | Faint... | 20 to field | 2.37 | 1.68 |
| 13 | " | 1026 | 1.9 | Fair... | 10 to field | 1.13 | 2. |
| 14 | Neutral | 1028 | 2.8 | Faint... | 3 to field | .13 | 2.6 |
| 15 | " | 1013 | 1.5 | " | 2 to field | .29 | 2. |
| 16 | " | 1022 | 1.8 | Heavy.. | 20 to field | .438 | 3. |
| 17 | Acid | 1028 | 2.6 | Faint... | 10 to field | 1.277 | 1.44 |
| 18 | " | 1020 | 1.9 | Absent | 1 to 3 fields | .839 | 1.8 |
| 19 | " | 1009 | 0.9 | " | Absent | .4 | 1.2 |
| 20 | " | 1020 | 2.0 | Faint... | Absent | 1.5 | 1.4 |

The percentages of urines showing oxalate crystals are variously estimated: Walsh[40] gives it as 28 per cent.; Gallois,[41] 36 per cent.; Smoler,[37] 57 per cent., and Dunlop,[23] 35 per cent. Of 2000 urine examinations made at the Columbus Medical Laboratory, Chicago, 22.5 per cent. contained oxalate crystals. Of 200 urines examined for indican, 50 per cent. showed more or less indican. Of 200 urines examined, 15 per cent. showed oxalate crystals and no indican.

Table No. 2 represents 100 indican urines, 85 per cent. of which contain more or less oxalate of lime crystals. In many of these, as, for example, Nos. 3, 6, 7 and 12, there seemed to be a definite ratio between the indican and oxalic acid, but excess of oxalate crystals does not signify increase in the total amount of oxalic acid, and I therefore decided to put this to a further test by estimating the total indican and oxalic acid. Harnack[1] has demonstrated that oxalic acid produces indicanuria. Might we not, therefore, believe that the formation of one is dependent on the other? If the above statement is correct oxalic acid may be an end product of proteid metabolism.

### METHOD TO DETERMINE INDICAN.

The method used to determine the indican is that of Eyvin Wang.[44] Take 300 c.c. of urine and treat with 25 to 50 c.c. of a 20 per cent. solution of lead acetate,

Table No. 2.

| Number. | Reaction. | Specific Gravity. | Urea; per cent. | Indican. | Oxalates. | Other Crystals. |
|---|---|---|---|---|---|---|
| 1 | Neut | 1022 | 1.9 | Heavy.. | Medium number | Triple phosphates. |
| 2 | Acid. | 1020 | 2.4 | Faint.. | Few | Uric acid. |
| 3 | " | 1030 | 2.8 | Heavy. | Abundant. | " " |
| 4 | " | 1013 | 1.1 | Medium. | " " | |
| 5 | " | 1017 | 4.8 | " | Medium number | " " |
| 6 | " | 1028 | 3.1 | Heavy. | Abundant. | |
| 7 | " | 1030 | 3.0 | " | " " | |
| 8 | " | 1015 | 1.9 | " | Medium number | Urates. |
| 9 | " | 1024 | 1.5 | Faint.. | Absent | |
| 10 | " | 1020 | 1.0 | " | Few.. | |
| 11 | " | 1020 | 2.8 | " | " | " |
| 12 | " | 1009 | 0.9 | Heavy. | Abundant. | " |
| 13 | " | 1024 | 3.0 | Faint.. | Few.. | " |
| 14 | " | 1028 | 2.7 | " | " | |
| 15 | " | 1005 | 0.5 | " | Very few | " |
| 16 | " | 1020 | 2.9 | " | Few.. | |
| 17 | " | 1020 | 2.0 | Medium. | Medium number | " |
| 18 | " | 1008 | 0.7 | Faint.. | Few.. | |
| 19 | " | 1023 | 2.7 | " | " | Uric acid. |
| 20 | Neut. | 1019 | 1.4 | " | " | Phosphates. |
| 21 | Acid. | 1011 | 2.0 | " | " | |
| 22 | " | 1020 | 1.9 | " | " | Calcium sulphate. |
| 23 | " | 1016 | 2.1 | Heavy. | Medium number | Uric acid. |
| 24 | " | 1017 | 1.8 | Faint.. | Few.. | Urates. |
| 25 | " | 1022 | 2.0 | " | Medium number | |
| 26 | " | 1029 | 3.3 | Medium. | " " | |
| 27 | " | 1026 | 4.0 | Heavy. | Absent | Urates and uric acid. |
| 28 | " | 1020 | 1.8 | Medium | Few.. | Urates. |
| 29 | " | 1016 | 1.8 | Quite heavy | Abundant. | |
| 30 | " | 1013 | 1.7 | Faint.. | Very few | |
| 31 | " | 1027 | 2.8 | Medium. | Few.. | " |
| 32 | " | 1020 | 2.8 | " | Medium number | " |
| 33 | " | 1005 | 0.8 | Trace.. | Few.. | " |
| 34 | " | 1038 | 1.9 | Medium. | " | |
| 35 | " | 1015 | 1.8 | " | " | Uric acid. |
| 36 | Neut. | 1016 | 0.8 | " | Absent | " " |
| 37 | Acid. | 1024 | 2.3 | " | Medium | |
| 38 | " | 1017 | 2.2 | " | Few.. | |
| 39 | " | 1016 | 1.4 | Quite heavy | " | Urates. |
| 40 | " | 1013 | 2.2 | Medium. | Medium number | |
| 41 | " | 1023 | 2.8 | Quite heavy | Abundant. | " |
| 42 | " | 1021 | 3.2 | Heavy. | Medium number | |
| 43 | " | 1031 | 3.1 | " | Abundant. | |
| 44 | " | 1021 | 1.5 | Trace.. | Absent | |
| 45 | " | 1020 | 2.2 | Faint.. | Few.. | |
| 46 | " | 1011 | 0.9 | " | " | |
| 47 | " | 1019 | 2.5 | Medium | " | Phosphates. |
| 48 | " | 1017 | 1.8 | " | " | |
| 49 | " | 1011 | 0.8 | Trace.. | " | |
| 50 | " | 1021 | 1.7 | Quite heavy | Abundant. | |
| 51 | " | 1027 | 2.2 | Heavy. | Absent | Urates. |
| 52 | " | 1020 | 2.1 | Faint.. | Few.. | |
| 53 | " | 1026 | 2.4 | " | Very few | Uric acid. |
| 54 | " | 1010 | 1.1 | " | Few.. | Urates. |
| 55 | " | 1012 | 1.2 | " | " | " |
| 56 | " | 1008 | 0.9 | Trace.. | Absent | Calcium sulphate. |
| 57 | " | 1017 | 2.4 | Faint.. | Few.. | |
| 58 | " | 1020 | 2.8 | " | " | Urates. |
| 59 | " | 1016 | 1.4 | " | Very few | |
| 60 | " | 1016 | 2.5 | Medium. | Medium number | Calcium sulphate. |
| 61 | " | 1025 | 3.0 | Heavy. | Abundant. | Phosphates. |
| 62 | " | 1013 | 1.7 | Trace.. | Absent | Urates. |
| 63 | " | 1013 | 1.5 | Faint.. | " | |
| 64 | Neut. | 1015 | 2.0 | Medium. | " | Triple phosphates. |
| 65 | Acid. | 1019 | 1.8 | Faint.. | Medium number | |
| 66 | " | 1015 | 1.6 | " | Absent | Urates. |
| 67 | " | 1036 | 2.1 | " | Medium number | " |
| 68 | " | 1015 | 1.3 | Fair amount | " " | " |
| 69 | " | 1016 | 1.5 | Very faint | Absent | |
| 70 | " | 1027 | 1.8 | Faint.. | " | |
| 71 | " | 1014 | 3.0 | Very faint | " | |
| 72 | " | 1026 | 2.4 | Trace.. | Very few | |
| 73 | " | 1024 | 1.8 | Faint.. | Few | " |
| 74 | " | 1019 | 1.5 | Trace.. | " | |
| 75 | " | 1027 | 3.0 | Very f'int | " | " |
| 76 | " | 1026 | 2.7 | Faint.. | Absent | " |
| 77 | " | 1023 | 1.8 | " | Few.. | |
| 78 | " | 1025 | 2.7 | " | " | " |
| 79 | Neut. | 1020 | 1.7 | " | " | " |
| 80 | Acid. | 1030 | 2.2 | Medium | " | " |
| 81 | " | 1008 | 2.7 | Heavy | " | |
| 82 | " | 1018 | 2.7 | Very f'int | Very few | " |
| 83 | " | 1008 | 0.6 | Faint.. | Few.. | |
| 84 | " | 1010 | 2.1 | Medium | " | " |
| 85 | " | 1018 | 1.7 | " | Absent | |
| 86 | " | 1014 | 1.1 | " | Few.. | |
| 87 | " | 1012 | 1.3 | Faint.. | Very few | " |
| 88 | Neut. | 1012 | 1.4 | " | Few.. | " |
| 89 | " | 1018 | 1.2 | " | Absent | |
| 90 | Acid. | 1025 | 2.6 | Heavy | Few.. | |
| 91 | " | 1010 | 1.2 | Faint.. | Very few | |
| 92 | " | 1018 | 1.3 | Very f'int | " " | Uric acid. |
| 93 | " | 1014 | 2.3 | Faint.. | Few.. | Urates. |
| 94 | " | 1026 | 1.7 | Medium | " | " |
| 95 | " | 1014 | 1.4 | Faint.. | " | " |
| 96 | " | 1027 | 2.5 | " | " | " |
| 97 | " | 1019 | 2.2 | " | " | " |
| 98 | " | 1025 | 2.9 | Medium. | Medium number | " |
| 99 | " | 1027 | 2.5 | Faint.. | Few.. | " |
| 100 | " | 1023 | 2.1 | Heavy. | Abundant. | " |

or enough until no further precipitate is given. Filter. Take an aliquot portion of the filtrate and add to it an equal volume of Obermayer's reagent—1 gram of ferrichlorid to 1 liter of hydrochloric acid, specific gravity 119. Place the mixed solution in a separatory funnel and shake with chloroform until all the indigo is removed. The chloroform is then removed by distillation, the residue left washed with a mixture of equal parts of alcohol, ether and water. The washings are filtered through a dry filter-paper and the washing continued until the solution comes through clear. The indigo, which is in the flask and also on the filter-paper, is dried. The filter-paper is then placed in a solution of chloroform and boiled under an inverted condenser until all of the indigo is extracted. The chloroform indigo solution is then poured in the flask which contains the dried indigo and the chloroform removed by distillation. The residue in the flask is evaporated down to dryness and then treated with 4 c.c. of sulphuric acid and allowed to stand for one hour. The sulphuric acid is poured into 100 c.c. of distilled water, the flask thoroughly rinsed with warm water until all of the indigo has been transferred to the flask containing the water. The solution is now titrated with a standard solution of potassium permanganate—3 grams of potassium permanganate dissolved in 1 liter of water; 5 c.c. of this solution is diluted to 200 c.c. with distilled water; each cubic centimeter of this solution is equal to .00015 of indigo. Multiply the number of cubic centimeters of permanganate used by the above factor, and then figure out the indigo for the twenty-four hours' amount of urine.

I have found that this method gives very good results, and, furthermore, believe it to be more convenient and better adapted for clinical purposes than is the estimation of aromatic sulphates. As indican is one of the putrefactive bases, it is sufficient to determine the amount of this alone, and from the result an index of the total putrefaction can be obtained without paying any attention to the other putrefactive bodies.

### METHOD TO DETERMINE OXALIC ACID.

The oxalic acid was estimated by Salkowski's[43] method, with slight modification. Instead of weighing the precipitate of calcium oxalate as calcium oxid, it was titrated with a centinormal solution of potassium permanganate. It was found that the two methods agree within three-tenths milligrams. Coloring matter was thoroughly removed by washing the dried precipitate of calcium oxalate with equal parts of alcohol, ether and water. There is always a slight color residue left on the filter-paper, the sulphuric acid dissolving so little of it that it is not worth while to consider. The titration method can be used in the presence of phosphates, and in several of these precipitates of calcium oxalate phosphates were present, in spite of the fact that acetic acid was used to dissolve them. Acetic acid even in weak solution has more or less solvent action on the calcium oxalate. This in itself, besides phosphate impurities, is very liable to give in some instances too high and in others too low results. Comparing the method with the older ones, I find that the results are much more satisfactory, and liability of error cut down to a minimum.

*Modified Method.*—Take 500 c.c. of urine, acidulate with a few drops of hydrochloric acid, boil over a free flame until the volume has been reduced two-thirds. Now acidulate with 20 c.c. of hydrochloric acid, specific gravity 1.12, and continue the evaporation on a water-bath down to a small volume. The residue is taken up with about 150 c.c. of water, the dish rinsed out with more water, all of which is placed in a separatory funnel and shaken three times with an alcoholic ether solution—nine parts of ether to one part of alcohol—using 200 c.c. of this mixture for each shaking. The ether is drawn off, filtered and removed by distillation, the alcohol solution left in the flask, treated with 15 c.c. of water, and the evaporation continued until all the alcohol is expelled. Should the solution be milky, add a little more water and continue the evaporation until clear. Filter and wash the residue on the filter part two times with distilled water. Add to the filtrate ammonium hydrate to a slight alkaline reaction, and then 1 or 2 c.c. of a 10 per cent. solution of calcium chlorid. This precipitates not only the oxalic acid, but also throws down the phosphates. The phosphates are redissolved by acidulating very faintly with acetic acid. The precipitate is allowed to stand twenty-four hours, then filter, wash and dry. After drying, wash with a solution of equal parts of alcohol, ether and water. The precipitate is dried again and then treated with 100 c.c. of a 3 per cent. solution of sulphuric acid. To this solution 5 c.c. more of sulphuric acid is added and the solution heated to 60 C. It is then titrated with a centinormal solution of potassium permanganate. Multiply the number of cubic centimeters of permanganate solution used by .00063, which gives the amount of oxalic acid in the 500 c.c. of urine used. From this the amount of oxalic acid in the twenty-four hours' urine is determined.

The results obtained from these analyses show most conclusively that there is not a relative ratio between the indican and oxalic acid excretion. (See Table No. 3.) It was thought that as sulphuric and oxalic acid, when given by stomach or per os, produces indicanuria, there might be a definite relationship between these two products. These results, however, do not by any means prove that the oxalic acid is not an end product of proteid metabolism, nor that it can not be produced from the decomposition of proteid matter in the intestinal canal. Oxalic acid thus produced may have been eliminated with the fecal matter, or if a large quantity of it were absorbed, it may have been oxidized. P. Marfori[45] believes that he could demonstrate that after taking several doses of oxalic acid part of it was oxidized. Baldwin[25] fed a healthy man on a diet of bread, butter and meat, giving him .2 to .48 gram of ammonium oxalate for a period of two weeks; only traces of oxalic acid appeared in the urine. A dog received the drug hypodermically, and 37 per cent. of it was recovered from the urine. Table No. 3 also shows that there is no relative ratio between the number of oxalate crystals and the total percentage of oxalic acid. Abundance of crystals does not signify high oxalic acid percentage.

Before discussing some of these cases it will be necessary to call again attention to Helen Baldwin's[25] excellent article on oxaluria. She was able to produce oxaluria in dogs by feeding them meat and large quantities of sugar. I give here one of the experiments:

A dog was placed under observation on Nov. 3, 1899. At that time there was a small amount of oxalic acid present in the urine. The dog was placed on a meat diet, and the urine examined November 18, 21 and 25 showed an absence of oxalic acid. On the last-named date the dog was placed on large amounts of sugar in addition to meat. The animal took the sugar greedily, at times receiving 250 to 300 grams in a day. For a month the dog showed no symptoms, but gained rapidly in weight. On November 9 a few calcium oxalate crystals were noted in the urine, but only a few. From that date until

December 27 oxalic acid was absent from the urine, or, if present, was in very small amounts. In the latter part of December there appeared simultaneously a group of symptoms consisting of loss of appetite, vomiting of frothy mucus, intermittent diarrhea, the absence of free hydrochloric acid in the gastric juice, the presence of organic acids in the urine, and the precipitations of numerous large calcium oxalate crystals in the urine. On January 1 the dog took almost no sugar, and there were again but few calcium oxalate crystals deposited in the urine. On January 3 very large and very numerous crystals were noted, some appearing in masses of imperfectly formed crystal-like microscopic calculi.

TABLE NO. 3.

| Case | Amount of urine in c.c. | Sp. gr. | Reaction | Color | Urea | Albumin | Sugar | Casts | Crystals | Oxalic acid in grams | Oxalic acid in grams | Acidity as HCl | Chlorids as NaCl | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ia | 2150 | 1.008 | Acid | Pale yellow | 7% | Absent | 1% | Absent | Few oxalates | 0.209 | 0.402 Anhydrous | — | — | Meat diet, diarrhea and chronic intestinal nephritis. Constipation, headaches, uses cascara |
| Ib | 1580 | 1.011 | Acid | Pale yellow | 9% | Trace | Absent | Absent | Few oxalates | 0.0414 | 0.167 | — | — | Same patient. Does not feel examination. Laxatives and saline waters. Feels better |
| II | 1750 | 1.008 | Acid | Pale yellow | 9% | Absent | Absent | Absent | Calcium sulphate | 0.0408 | 0.098 | — | — | Weak stomach, fits of depression, mixed diet, rests on stomach and vegetables, uses cascara |
| III | 515 | 1.027 | Acid | Normal yellow | 2.2% | Absent | Absent | Absent | Oxalates in mucus | 0.0214 | 0.111 | — | — | Aortic stenosis, broken compensation, unable to take much starchy food, because of gaseous distention of stomach. Still frontal headache, saline cathartics daily |
| IV | 1025 | 1.020 | Acid | Normal yellow | 2.1% | Absent | Absent | Few epithelial | Few oxalates | 0.0677 | 0.251 | — | — | Dizziness, numbness, palpitation, bowels regular, mixed diet |
| V | 1.20 | 1.020 | Acid | Normal yellow | 2.8% | Absent | Absent | Hyaline and granular casts | Few oxalates | 0.086 | 0.317 | — | — | Drinking of coffee, followed by numbness, cardiac neurosis, prolapsed stomach, milk diet for three days |
| VI | 950 | 1.013 | Acid | Pale yellow | 1.5% | Absent | Absent | Few hyaline | Absent | 0.0546 | 0.1414 | — | — | Congenital cardiac anomaly, symptoms of numbness and palpitation, slight indigestion, mixed diet |
| VII | 940 | 1.019 | Acid | Normal yellow | 1.8% | Absent | Absent | Few hyaline | Few oxalates | 0.0485 | 0.103 | — | — | Chronic arterio sclerosis, cardiac changes, still headaches, insomnia, seems to pass urine, mixed diet |
| VIII | 1.00 | 1.012 | Neutral | Pale yellow | 1.4% | Absent | Absent | Absent | Few oxalates | 0.0158 | 0.075 | 4.34 | 92 | Post cranial head ache, mixed diet |
| IX | 960 | 1.018 | Neutral | Pale yellow | 1.2% | Absent | Absent | Hyaline and granular | Absent | 0.0587 | 0.1814 | 4.55 | 1.87 | Arterio sclerosis, palpitation, red meats reduced, eats sparingly of steaks |
| Ia | 1820 | 1.027 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Absent | 0.036 | 0.151 | 8.54 | 2.076 | Nervousness, easily startled, vertigo after climbing to a height of 10,000 feet, moderate arterio sclerosis, signs of strain of heart |
| Ib | 2.00 | 1.009 | Acid | Normal yellow | 9% | Absent | Absent | Absent | Absent | Absent | 0.046 | 4.01 | 1.2 | Same patient. Since first examination eat steak on meats, drinks much water and uses Urotropin |
| XI | 900 | 1.024 | Acid | Normal yellow | 2.3% | Absent | Absent | Absent | Oxalates in mucus | 0.0548 | 0.1386 | 7.1 | 1.— | Acid dyspepsia, nervous headaches, malaise, etc. Meat diet, no cathartics |
| XIIa | 1210 | 1.022 | Acid | Normal yellow | 2.1% | Absent | Absent | Absent | Absent | 0.0514 | 0.195 | — | — | Uric acid diathesis, acid fermentation, irritable, depressed, attacks of melancholia, lives on meat, takes one gram of calomel daily |
| XIIb | 1.500 | 1.021 | Acid | Normal yellow | 2.0% | Absent | Absent | Absent | Absent | 0.0564 | 0.113 | 7.66 | 1.86 | Same patient but of cheese, cereals and bran for three days. Dose of sodium bicarbonate morning, feels better |
| XIIc | 900 | 1.024 | Acid | Dark yellow | 2.5% | Absent | Absent | Absent | Few oxalates | 0.0482 | 0.1587 | 2.135 | 1.44 | Same patient after one week on meat diet, mental hebetude, nervousness, sodium bicarbonate morning |
| XIId | 1350 | 1.020 | Acid | Normal yellow | 2.0% | Absent | Absent | Absent | Absent | 0.0156 | 0.122 | 1.53 | 1.89 | Same patient. Cheese, milk and bread diet for one week complains, feels much better |
| XIII | 1.500 | 1.023 | Acid | Dark yellow | 2.5% | Absent | Absent | Absent | Few oxalates | 0.203 | 0.483 Anhydrous | — | — | Uric acid diathesis, gastro intestinal indigestion, headaches, melancholia, constipation, followed by diarrhoea, flatulence, urination during urination |
| XIV | 700 | 1.023 | Acid | Dark yellow | 2.7% | Absent | Absent | Few hyaline | Oxalates and uric acid | 0.077 | 0.609 Anhydrous | — | — | No data |
| XV | 1.200 | 1.020 | Acid | Normal yellow | 2% | Absent | Absent | Absent | Oxalates four months | 0.0806 | 0.141 | — | — | Uric acid diathesis, hydrochloric acid gastritis, five years ago passed uric acid calculi, head ache, melancholia, stupor, attacks of deafness and palpitation |
| XVI | 970 | 1.020 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Few oxalates | 0.1147 | 0.216 | — | — | No data |
| XVII | 860 | 1.020 | Acid | Yellow | 2.2% | Absent | Absent | Absent | Few oxalates | 0.0316 | 0.1233 | — | — | Palpitation, preceded by melancholia, stupor, pains in legs and about the heart. Still frontal headaches |
| XVIII | 1.250 | 1.026 | Acid | Normal yellow | 3.0% | Absent | Absent | Absent | Few oxalates | 0.078 | 0.129 | — | — | Uric acid diathesis, head ache, depression, attacks of vertigo, examination made after fasting for three days with saline cathartics |
| XIX | 1.500 | 1.022 | Acid | Pale yellow | 2.0% | Absent | Absent | Few hyaline | Oxalates four months | 0.1167 | 0.169 | — | — | Head ache and depression, takes cathartics. |
| XX | 860 | 1.017 | Acid | Dark yellow | 2.4% | Absent | Absent | Few hyaline | Few oxalates | 0.0477 | 0.14 | — | — | Neurasthenia, hypochondriacal |
| XXI | 1.100 | 1.016 | Acid | Normal yellow | 1.7% | Absent | Absent | Few hyaline and granular casts | Few oxalates | 0.034 | 0.1576 | — | — | Hyperchlorhydria, hyperacidity, constipation, head ache, malaise, melancholia, [illegible] |
| XXII | 1125 | | — | — | — | — | — | — | — | 0.053 | 0.129 | — | — | Pain left, complains of indigestion, mixed diet, gives a history of suffering from indigestion five years ago, from taking oil of cinnamon |
| XXIII | 1.400 | 1.023 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Few oxalates | 0.0172 | 0.19 | 1.379 | 56 | Suffers from lumbago, albuminuria at intervals, no exercise, leads a sedentary life |
| XXIV | 1.200 | — | — | — | — | — | — | — | — | 0.051 | 0.201 | 55 | 1.411 | Hyperchlorhydria, hyperacidity, constipation, attacks of gastralgia, mixed diet, takes saline cathartics daily |
| XXV | 1.750 | 1.020 | Acid | Normal yellow | 1.8% | Absent | 2% | Absent | Absent | 0.128 | 0.0448 | 1.91 Permanganate value | 6.66 Permanganate value | Glycosuria, melancholia, polyuria, constipation, mixed diet |
| XXVI | 3.500 | 1.018 | Acid | Pale yellow | 1.3% | Absent | 8% | Absent | Mucus and oxalates | Absent | 0.305 | 3.5 | 1.8 | Uric acid diathesis, uric acid and oxalate crystals usually present in urine, diabetes for sixteen years, diet - fish and vegetables, uses saline cathartics |
| XXVII | 750 | 1.026 | Acid | Dark yellow | 2.4% | Absent | Absent | Absent | Few oxalates | 0.2648 | 0.462 | 9.68 | 9.8 | Recovering from an attack of acute rheumatism |
| XXVIII | 1.750 | 1.013 | Acid | Yellow | 1.1% | Absent | Absent | Absent | Absent | 0.1704 | 0.2025 | 9.58 | 2.8 | No data |
| XXIX | 4.25 | 1.025 | Acid | Dark yellow | 2.6% | Absent | Absent | Absent | Oxalates abundant | 0.046 | 0.803 | 5.27 | 6.46 | Uric acid diathesis, attacks of vomiting followed by drowsiness and fatigue, uric acid and oxalate crystals, history of indigestion marked, mixed diet |
| XXX | 960 | 1.024 | Acid | Dark yellow | 2.6% | Absent | Absent | Absent | Absent | Absent | 0.078 | 1.61 | 1.636 | No data. First examination about many oxalate crystals and in rather heavy in the twenty four hour urine there were no oxalate crystals, no indican |
| XXXI | 1.150 | 1.016 | Acid | Yellow | 2.3% | Absent | Absent | Absent | Few oxalates | 0.0231 | 0.235 | 1.46 | 88 | Suffers of vertigo, pulse & heart weak; rate 40 |
| XXXII | 1.500 | 1.028 | Acid | Yellow | 2.6% | Absent | Absent | Absent | Oxalates | 0.0357 | 0.234 | 1.27 | 1.44 | Uric acid diathesis, melancholia, dizziness, headaches, dyspepsia, gastric fat stiff, flatulence, pain in urinating, bowels irregular |
| XXXIII | 1.250 | 1.020 | Acid | Yellow | 1.9% | Absent | Absent | Absent | Absent | 0.079 | 0.239 | 8.37 | 1.8 | Uric acid diathesis, has passed renal calculi, at present has attacks of renal colic, suffers from indigestion |

She found that gastritis with anacidity usually showed oxalate of lime crystals in the stomach contents. Sugar solutions with beef extract inoculated with a portion of stomach contents from the above cases and incubated for two days contained oxalate crystals. Quantitative experiments will have to be made along this line before positive conclusions can be drawn. Suffice it for the present to say that oxalic acid is probably produced in the gastro-intestinal tract through fermentation.

Taking all of the urines showing less than 11 mg. of oxalic acid (see Table 3), we get .0077 as a daily average. Taking all of the urine showing more than 11 mg. we get a daily average of .0175 gram of oxalic acid. (Leaving out Nos. 1a, 13 and 14, as these were estimated by Neubauer's[30] method, and therefore not reliable.) As these were all urines from persons more or less ill, it is impossible to state absolutely just what amount would be considered a daily average. I think, however, that Baldwin's[25] average of less than 10 mg. for the twenty-four hours is about correct. Of indican there should be, under normal conditions, virtually none, or, if any, a very faint trace.

### DISCUSSION OF CASES.

In Case 1, *a* and *b*, there was a great difference in the amounts of indican and oxalic acid eliminated. This was a result of purging.

Case 11, *a* and *b*, was the same patient, cut down on meat and taking urotropin since first examination. Whether it was the urotropin or not that stopped the formation of indican I would not want to say on one examination. I call attention to Case 12, *a*, *b*, *c* and *d*, as representing several examinations of the same patient; also to Cases 13, 15, 18, 26, 29, 32 and 33. These cases were under my personal observation and therefore I am in a position to discuss them more intelligently. Most of these cases were being treated, receiving cathartics and other drugs. One seldom gets the urine when the paroxysm is at its height, consequently the material can not be worked up as well as is desired.

Case 12, *a* had been suffering from indigestion, hydrochloric gastritis, for a great many years. Meat diet agreed with him best. Starches seemed to distress him. Taking of starches made the index finger on the left hand swell and become very painful and stiff. He was treated for gout. Going back to the meat diet would always correct the finger difficulty. Examination of 12, *a*, showed considerable indigo and a high percentage of oxalic acid. The excess of the latter would signify acid fermentation with some putrid decomposition. The patient was put on a cheese, bread and bran diet; a dose of sodium bicarbonate in the morning. At the end of three days' examination, Case 12, *b*, showed a slight increase in the indigo, but a marked falling off in the oxalic acid. He said he felt much better, and was placed for a week on meat, bread and coffee. Examination of Case 12, *c*, showed a little less indigo, but a marked increase in the oxalic acid. The patient complained of feeling heavy, drowsiness, was very nervous, and had considerable flatulence, so was again put on cheese, milk and bread diet, this time for one week, so as to be sure and have the bowels empty of previous diet. Examination of Case 12, *d*, showed a marked falling off in indigo and oxalic acid when compared with previous examinations on a meat diet. This looked as though the meat increases oxalic acid as well as indican. The casein diet probably lessens the putrefaction.

The object of putting the patient on cheese was to determine whether or not this diet would prevent putrid fermentation. Winternitz[47] and Carl Schmitz,[46] as well as myself,[48] have shown that milk and koumyss diminish putrefaction, thereby restricting the formation of aromatic sulphates. I would like to refer to one case published in my original article. A patient, a typhoid, was put on a koumyss diet. Before commencing this the aromatic sulphates were .5 gram for the twenty-four hours. In three days, on the above diet, they were reduced to .0033. This goes to show that milk and koumyss restrict putrefaction. Carl Schmitz[46] says it is the casein in the milk which prevents the formation of these putrefactive bases; in that event one naturally would believe that the casein does not contain the skatol, indol and phenol group.

Cases 12, 13, 15, 18, 26, 29, 32, 33, all belong to the uric acid diathesis group. They suffered from hyperacidity gastritis. Examinations of the stomach contents seven hours after a meal showed the presence of considerable hydrochloric acid. Attacks usually come on as follows: Hands and feet cold and moist, feel heavy and depressed, polyuria lasting from five to six hours, headache, prostration, diarrhea and in some, vomiting. After a paroxysm the patients feel well again. This points to intestinal fermentation, the symptoms being brought on by the poisons absorbed.

Case 29 is especially interesting. I do not find so much indican and oxalic acid in the twenty-four hours' urine. The total quantity of urine passed being only 425 c.c. One can readily understand that there must be a great deal of retention. I have no doubt that if 1400 c.c. of urine had been passed the oxalic acid would have risen to .02409, which is very high. The patient, a medical student, has these attacks about once a month.

Case 26, *a*, diabetic, suffers from acid fermentation. I find no indican in his case, the absence of this probably due to diet. The oxalic acid is the highest percentage of all obtained by the modified method. Tenbaum[49] has called attention to the fact that in diabetes it is not uncommon to find indican, oxalic acid and lime salts very much increased.

Caspari[64] and Senator[12] have demonstrated that in oxaluria there is always increased elimination of the lime salts. This tends to point to an abnormal breaking down of proteid substance. P. Krohl[50] even goes so far as to say that he has produced glycosuria by subcutaneous injections of oxalic acid. Harnack,[1] however, in his experiments was not able to verify this.*

### GASTRO-INTESTINAL FERMENTATION.

As a rule, in this condition we have two forms of fermentation going on—putrid, in which the aromatics are the end products, and acid fermentation, in which amido, fatty and oxalic acid are the end products. Table No. 3 shows that both forms are found in the majority of these cases. It matters not whether the hyperacidity is due to hydrochloric acid or to acids of fermentation, putrefaction will result in either case, indican being one of the end products.

Ziemke[51] says the normal amount of hydrochloric acid prevents putrefaction; anacidity, on the other hand, increases it. Blumenthal[63] finds that alkaline fermentation increases the indol and acid fermentation increases the amido acids. These last-named products should also be considered as putrefactive bodies. C. E. Simon[52] has demonstrated that in the hyperacidity of gastric ulcer indican is much increased. The poisons resulting out of this double fermentation belong to two groups: Those

* I used Dr. Walter Christopher's classification, putrid and acid fermentation.

that originate in the proteids and those that originate in the carbohydrates and fats. These probably produce different symptoms. It is, however, not the purpose of this paper to discuss that part of the question, merely to call attention to it.

### OXALIC ACID PRODUCTION AND OXALURIA.

Oxalic acid in small quantities is a normal constituent of the urine, and is derived from food-stuffs. An increase in its amount—not due to food—can only be accounted for as being a katabolic product, or produced through fermentation. Beilstein[53] says that if cyanogen is allowed to stand in water a short time ammonium oxalate is produced. The potassium sulphocyanid found in the saliva is thought to be an end product of proteid metabolism. Furthermore, if glyceric acid is heated with potassium hydrate, oxalic acid is produced. I mention the last fact on account of the close relationship between this acid and the sarcolactic acid.

The fermentation theory is pretty well proven. Baldwin's[25] experiment shows quite conclusively that the acid is produced by a fermentation in the gastro-intestinal canal. Many experimenters have demonstrated that fungi can produce oxalic acid. Pfeffer[54] says oxalic acid is produced in considerable quantities when different food-stuffs are treated with fungi; he found that he had to add enough of calcium carbonate to take up the acid quickly, as otherwise it is oxidized into carbon dioxid. Zopf[55] shows that saccharomycetes found in cotton-seed meal, when added to fermentable carbohydrates, produce oxalic acid in place of alcohol. Beilstein[53] says that after the taking of fermented beverages oxalic acid is always found in the urine. Ernst Wissel[56] finds yeast cells and sarcina abundant in the stomach of individuals suffering from hydrochloric hyperacidity. Dunlop[23] notices an increase in the oxalic acid after the giving of hydrochloric acid. All of these facts must be considered in the production of oxalic acid.

Begbie[57] describes oxaluria as a poison produced during digestion and assimilation, carried into the blood and eliminated by the kidneys. Gallois[41] says oxaluria is frequently met with in health, at all ages, and in all conditions of life; its appearance is influenced by certain food-stuffs and by certain drugs; it is often found in the urine of patients suffering from very different diseases. Prout[34] believes there is an oxalic acid diathesis. Hayem,[58] Ewald,[59] and others call attention to the neurasthenic phase in this condition; suffering from dilatation of the stomach and a great many other symptoms. Cantani[38] relieves the oxaluric condition by putting these patients on a strict meat diet.

### URIC ACID THEORY.

In this connection a word must be said about uric acid. The most accepted theory at present is that uric acid is an end product of nuclein metabolism. The clinical diagnosis is based on the symptoms of headache, malaise, despondency, deposits of urates around the phalanges, etc.; the chemical diagnosis, on the total amount of uric acid excreted, and the presence of free uric acid in the blood and urine. Meat is still thought to increase the output, although it has been shown by competent observers that this also diminishes it. The ratio of uric acid to urea, namely, 1 to 33 (Haig's[60]) has been proven to be wrong. It has been shown that in healthy individuals this ratio is a most variable quantity. In pneumonia and in leukemia the uric acid is much increased, due to the decomposition of leucocytes. These cases are not diagnosed as gouty, although chemically and microscopically we get the gouty findings. All this, to my mind, shows that there are many and different causes that produce uric acid. Food per se, perhaps, is not a factor in its formation. The decomposition products of the food, however, are probably the inciters of uric acid formation. Poisons absorbed from the gastro-intestinal tract produce leucocytosis and general cellular activity, all of which have a tendency to early decomposition, uric acid being the ash of this combustion. Uric acid is non-toxic, therefore the general symptoms produced in these cases must be due to other poisons. These patients invariably complain of gastro-intestinal fermentation and flatulence. I refer to Cases 12, 13, 15, 18, 26, 29, 32 and 33, as individuals usually called gouty. Examination of the urine for the total amount of uric acid in such cases has been of no service as aiding in the diagnosis. This was not the fault of the laboratory man, but the fault of improper deductions. More work must be done along this line. Urines should be examined more for the products of fermentation and putrefaction than for uric acid, for in the gastro-intestinal canal will be found the agent causing these constitutional symptoms, uric acid being only a product of early decay and in no way a factor. The treatment of of these cases by giving alkalies has been beneficial for two reasons: 1, they neutralize the gastro-intestinal tract; 2, when absorbed they increase cellular activity and oxidation. This last point has been beautifully brought out by the works of Professors Loeb[61] and Zouthout.[62] To make a proper examination of a twenty-four hours' urine for the total oxalic acid and indican the following foods must be excluded: Fruits, spinach, rhubarb, sorrel and tea.

### CONCLUSIONS.

1. Traces of oxalates are found normally in the urine, having been taken in with the food.

2. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded.

3. Abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution.

4. Indican is often, but not necessarily, associated with oxalate crystals.

5. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation.

6. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased.

7. The symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred.

The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromatics. These, when better understood, will lead to new ideas, thereby giving us a better understanding of chronic diseases, such as rheumatism, gout, nephritis, etc. I hope to be able to continue this work, as material presents itself.

I am under the greatest obligations to Mr. J. W. Robinson, who assisted me so faithfully in the quantitative examinations. I also wish to thank Drs. Teschan and Roehr for making the clinical examinations. I am

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## SOME ADDITIONAL OBSERVATIONS ON THE EFFECTS OF INJURY TO PERIPHERAL NERVES.*


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Two years ago I read a paper before the Academy, on "Injuries to Peripheral Nerves," in which a case was related illustrating the effects of a comparatively slight injury to the nerves of the thumb, resulting in very distressing symptoms covering a period of more than two years. The extremely painful symptoms were due to a pressure lesion including the branches of the median nerve supplying the thumb. The amount and density of the connective tissue attending the healing of the wound was remarkable. The healing of the original injury was scarcely accomplished before painful twitching of the thumb occurred. It was at once recognized that the nerve branches were caught in the scar, and it was apparent that relief could be obtained only through surgical means. Twice the scar was dissected out and the nerve freed. Later the external cutaneous and the collateral branches of the median supplying the thumb were resected with the effect of producing paralysis of sensation on the palmar surface, but the pain recurred after the healing, with the addition of painful spasms of the fingers supplied by the median nerve, painful sensations extending up the arm, and vasomotor paralysis together with somewhat widespread reflex disturbances.

A fourth operation consisted in a division of all the soft parts, including the adductor muscles, nerves and vessels, to the inner side of the original injury down to the bone, at the same time removing the scar tissue, allowing the parts to retract, uniting only the skin with a few stitches and using gauze drain.

The fifth operation consisted in amputating the thumb through the middle of the metacarpal bone. Complete relief would follow each operation for a period of about six weeks, when the old pain would return—although it may be said that after the last operation the pain did not reach its original intensity, in fact, for a few days in succession comparative relief would be obtained, then for several days the pain would be very severe, extending up the arm, and attended with vasomotor paralysis in the hand and fingers, violent and painful flexion of the fingers into the palm of the hand. It was at this time that the case was reported.

At the end of six months, the condition not improving—and, as the pain had increased and the man totally incapacitated for any kind of employment—propositions for further operative procedure were made. The patient was now quite willing to have the median nerve resected with all the crippling effects resulting therefrom, or even to have his arm amputated if it would afford any relief. At the suggestion of Dr. Owens, the remaining portion of the metacarpal bone of the thumb was removed by amputation at the carpo-metacarpal articulation, all the scar tissue dissected out and the median nerve carefully raised and freed from any nerve connective with the thumb—if any existed. The wound healed promptly, but in three weeks the pain returned in all its former intensity. I had already been impressed with the fact that a chronic neuritis existed in the median nerve, and that under the influence of this morbid condition trophic changes occurred in the new-forming tissue of the wound, resulting in the production of a large amount of dense connective tissue, which exercised a pressure influence on the already irritated nerve. The great suffering of the patient, his utter inability to perform any labor, and my failure thus far to furnish any permanent relief led me to consider every possible means short of the mutilation operation of the median nerve resection or amputation. After considerable reflection, it occurred to me that if I could protect the nerve from the compressing influence of dense scar tissue, something could be accomplished. I therefore secured from a dentist a sheet of gold of the uniform thickness of 1/500 of an inch, 1¾ inches in length and ¾ of an inch in width. This I placed in the sterilizer, and I prepared the hand with great care, observing the most rigid asepsis. I again opened up the wound, dissected out all the scar tissue, lifted up the median nerve as it passed through the wound, on a strabismus hook, to make sure that the nerve was free from scar tissue. When this was done I covered the nerve with the sterilized gold sheet above

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

referred to, pressing it down on each side of the nerve, fitting it evenly so that the nerve could come in contact with the tissues of the hand only at its posterior surface as it passed along its course. The flaps, composed of the skin and subcutaneous tissue—which I had formed in exposing the field of operation—were united over the gold foil with silkworm gut and horsehair. The greatest care was taken at every step of the operation to secure the most perfect asepsis and coaptation of all the parts. The wound was covered with copious dressings which were removed at the end of ten days, when the wound was found perfectly dry and the stitches removed.

This last operation was made April 18, 1899, and about two months later the patient resumed work as a bridge carpenter, and has continued in this employment since, having been practically free from pain.

When he first resumed work, if he exercised the muscles of his arm much or exposed it to any continued jarring influence, or if he became exhausted from any cause, he would suffer more or less severe attacks of pain, which would however subside after a day of rest. The condition of the nerve gradually improved until at the end of a year he was practically free from pain, whatever he might do. At that time an incident occurred which illustrated the serious nutritive disturbance resulting from two and one-half years of constant irritation. He was employed to pick up nails for three hours, and that night suffered considerable pain, contraction of fingers into the palm of the hand and vasomotor paralysis. This all cleared up without treatment, after a day or two of rest. It may be observed in this connection that the hand was very susceptible to the influence of cold.

At the present time—one and one-half years after the operation—the median nerve may be said to have been restored to its normal state of nutritive stability, and that the man is able to perform any labor adapted to his years and strength with entire freedom from pain.

## AN OPERATION FOR CYSTOCELE.

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The necessity of operating for cystocele, either with or without plastic operations, of the female genital tract, is not an infrequent occurrence. The unsatisfactory results of operations usually employed, especially in old women with relaxed and dilated vaginal outlets, are frequent. Usually failure is due to stretching of the newly formed cicatrix, or to imperfect attachment when the base of the bladder is anchored to structures above the plane of the anterior vaginal wall.

In the absence of dense fascia in this part of the genital canal the repair of cystocele must depend upon the fixation of soft yielding structures to similar parts, but should be reinforced by ample support from the posterior vaginal wall and perineum; and in certain cases with ventrosuspension or some similar operation. Even then the results are not invariably good. This, with the fact that extensive operations in old women are objectionable, makes an urgent appeal for improvement in technique.

Hoping to find something to answer the demand, various procedures were tried as cases of this kind presented themselves to me. First, superimposed layers of catgut sutures were used in the sulci on either side of the vagina with fair success, and perhaps superior to the ordinary Stoltz-Sims operation or elliptical denudation. Following this the redundancy of tissue was folded in upon itself and pressed into the bladder-space by superimposed layers of catgut sutures in the median line (see Case 1). The effect was quite good, but occasionally there would be some return of the cystocele in after years. Other modifications were tried with varying success until buried sutures of silk, silver and kangaroo were used.

With patient in Sims' position, a diamond-shaped denudation is made over the protruding cystocele, which should be outlined in the following manner: With two pairs of tenacula the mucosa is picked up on either side of the vagina, about half-way up the canal, and drawn toward the median line. This is repeated until two points are selected that will barely meet or touch when slight tension is put on them. They are marked by snipping out the pieces of mucous membrane engaged by the hook. In like manner the angle at the base of the urethra, and also one anterior to the cervix uteri, are marked. A tenaculum should engage the point on the right-hand side and sufficient tension be made upward to throw the mucous membrane of the vagina into a sharp fold or ridge running from the urethra to the tenaculum. With a pair of scissors a strip of mucous membrane is pared off along the crest of the ridge marking the right inferior side of the quadrangle. The hook should then be fixed at the mark anterior to the cervix and a thumb forceps should catch the lateral angle just released from the tenaculum. The two instruments are then drawn in opposite directions, forming a fold in the vaginal wall similar to that described above. A strip of mucous membrane is removed between the instruments marking the right superior side of the quadrangle. In like manner outlining of the diamond is completed upon the opposite side, after which it becomes an easy matter to remove the island of mucous membrane in one piece. All fatty tissue should be removed as far as practicable, that it may not interfere with direct contact of the muscular tissue. The sutures are easiest introduced by starting on one side of the urethral angle. The needle should enter the edge of the denuded surface beneath the mucous membrane, penetrating at the junction of the middle and lower third of the right anterior side of the quadrangle, passing in an eccentrical direction to a depth of one-half inch into the vesico-vaginal septum. On returning it should emerge from the margin of the wound one-half inch away, completely burying the suture. It is then carried a short distance toward the center of the field, perhaps one-half inch, and a deep stitch taken in the vaginal wall but not including the mucosa of the bladder. The suture is then returned to the margin of the wound and another buried stitch made as first described, but penetrating the septum one-fourth to one-half inch further. Another stitch is then made in the denuded surface, after which a third one is introduced upon the outer side of the wound as first described (see Fig. 1). In this way five stitches are introduced on each side of the diamond (see Fig. 1), three of which are submucous and extended horizontally outward, including the muscularis of the vagina and bladder; the other two are made in the denuded field and passed at right angles to the surface. It will be observed that a line drawn from the tips of each of the loops extending outward will approximate a circle, and the suture when drawn tight will assume a similar shape, effectually closing the wound on the principle of a purse-string. The sides of the diamond are forced sharply inward and each converted into a right-angled triangle,

the apices of which come in close contact in the center of the wound, forming an imperfect cross (Fig. 2). The margins of the wound are accurately closed with catgut (see Cases 4 and 5).

When silk or kangaroo sutures are used they should be introduced in a slightly modified manner (Fig. 3). Let the diamond *a, b, c,* and *d* represent the denuded surface over the vesicocele. Four small silk sutures are passed across the angles at the points 3-3-3-3, or at a distance from the angles equal to one-fourth of the respective sides of the quadrangle. They should be small silk or medium kangaroo, and include all the tissues of the vesico-vaginal septum except the mucous membrane on either side, and should be buried deep. They serve to close the angles of the wound and reduce the field of operation to such an extent that a smaller purse-string suture can be used. This is quite an important feature for unabsorbable sutures. When they

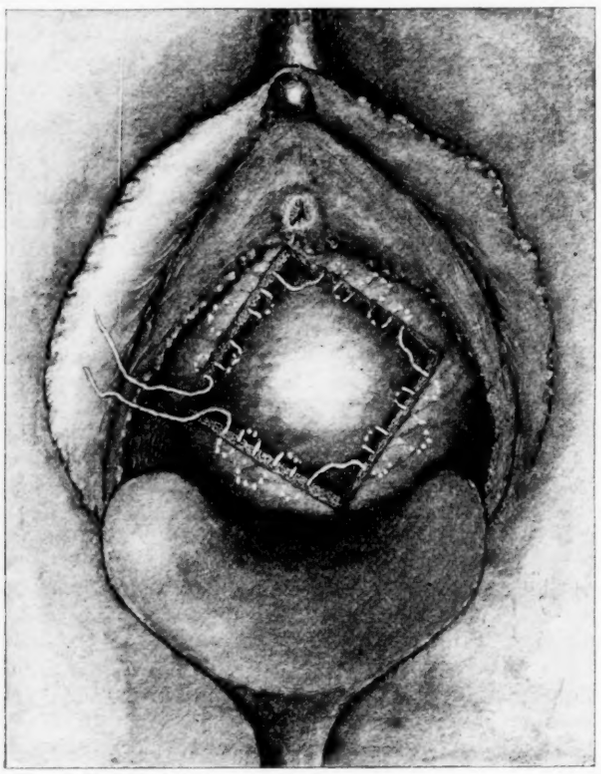

FIGURE 1.

exceed No. 28 silver wire in size the latter gives the least resistance, consequently the shorter the ligature the better are the chances of success, especially when silk is used.

This suture should be introduced in the manner described in Fig. 1, except that one stitch or loop only is made on each side of the diamond.

It should follow the line 2-2-2-2, each stitch surrounding the central point (Fig. 3, 1) of each side of the quadrangle. In passing across the denuded surface, from side to side, two deep stitches should be taken in the base of the bladder down to but not including its mucosa, at the points marked X. When drawn together and tied the sides of the diamond are forced in concentrically (Fig. 4, 1), producing the same effect as the wire—that is, the formation of a cross. The margins of the wound should then be closed with a whip-stitch of fine catgut (see Cases 2 and 3).

Success of the operation does not depend on the use of silver wire, *but any lasting buried suture may be used.* Any one familar with the technique of burying fine silver wire (No. 28) will meet with success when employing it in this operation. It should be buried deep, fastened with very little tension, and the ends folded under twice and mashed down flat to prevent its sticking or irritation (Figs. 5 and 6). When wire is used it is perhaps better to begin its introduction at one of the lateral triangles, that the twisted ends may be covered more deeply and placed out of harm's reach. Silk suture, large kangaroo, chromicized catgut are satisfactory materials, but personally I prefer the silver *for very bad cases,* because I have had no unpleasant result with it in the operation.

ILLUSTRATIVE CASES.

CASE 1.—M. C., Atlanta, Ga., aged 35 years, was admitted to the King's Daughters Hospital, April 30, 1890. The physical examination showed anemia and neurasthenia. The heart, lungs, and kidneys were negative. The perineum had been lacerated to the sphincter in her last confinement, four years

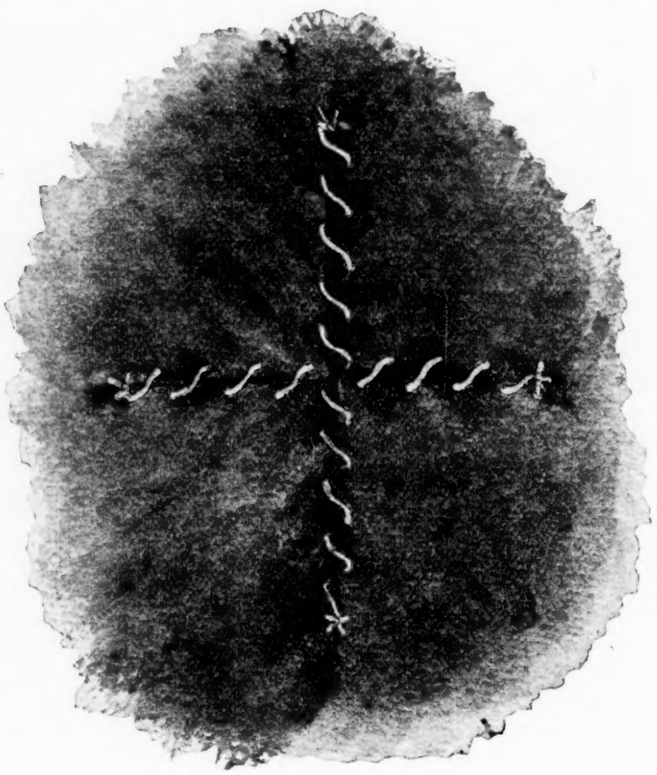

FIGURE 2.

before. The uterus was subinvoluted, retroverted and about three times its normal size. The bladder was rolling out between the vulvæ in a mass the size of a large goose-egg. There was frequent dysuria, the urine alkaline, otherwise negative.

An oval denudation was made over the cystocele to its base on all sides and superimposed layers of catgut sutures—whip-stich—were put in from above downward, tucking the redundancy of tissue into the bladder space as each layer was imposed. In all, three layers were employed, two being completely buried, the last used as a finishing suture to close the margins of the wound, after which colpoperineorraphy after Martin was done with slight modification. The immediate results were satisfactory and the patient was dismissed May 24, 1890.

Seven years afterward I had an opportunity of examining this case, and, much to my gratification, she had remained well with the exception of slight retroversion. Other cases were done in this way prior to the year 1888, but my notes of them are missing, consequently this one is employed for illustration.

CASE 2.—Mrs. M. E. D., aged 33 years, was admitted to the King's Daughters Hospital, Sept. 11, 1888. She was a hard-working woman, having the care and support of an invalid husband, two children and herself forced upon her. The perineum had been lacerated to the rectum in the first confinement, five years before. The uterus was completely prolapsed and protruding from the vulva. The bladder extruded in a globular mass about the size of a baseball. The anterior vaginal wall was very short, the posterior very long, making the fitting of a pessary impracticable. Frequent attacks of cystitis added much to her discomfort and the prolapsus grew rapidly worse until she was forced to go to bed.

The heart, lungs and kidneys were normal, also the urine, except that it was alkaline in reaction and contained a quantity of pus and albumin. Anemia was marked.

The cystocele was reduced in the manner described in the

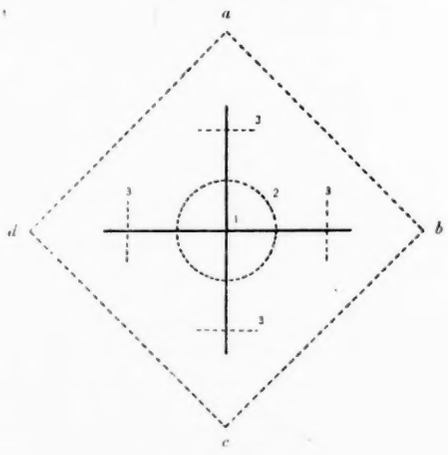


FIGURE 3.

operation where silk sutures were used (Fig. 3), this being the first case in which I employed it. I first began making the diamond denudation in preference to the oval, on account of the greater facility with which it could be done; then found

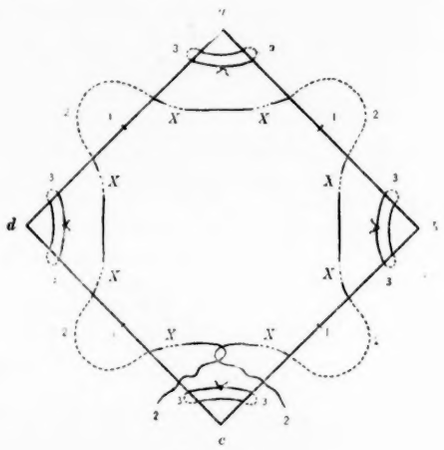


FIGURE 4.

that it afforded a better and easier approximation of the edges of the wound. This was strikingly apparent after putting in the small stitches across the angles. The purse-string suture naturally presented itself, and was employed to bring the sides of the diamond into the center of the field. An important step in each of these stitches is taking an extra deep hold in the muscular coat of the bladder as well as in the vagina. This is an immense advantage over the old Stoltz operation, which only puckers the mucous membrane together.

The posterior operation was done upon this case, employing Emmett's operation on the perineum and buried catgut—superimposed—in the posterior vaginal wall. The results were excellent. The patient was dismissed Oct. 13, 1888, and today—twelve years after—is a well, hard-working stenographer and typewriter.

CASE 3.—With this case I had the honor of beginning the surgical work of the Grady Hospital—the first case, the first day, the first operation. Chromicized catgut was used, closing the diamond on the principle of the purse-string as described above. There was great relaxation of the vaginal outlet, requiring closure by the Emmett operation on the perineum.

The cystocele was very large, dragging the uterus so low that the cervix protruded between the labia with the rectum rolling out behind it. The patient was incapacitated for work of any kind, being confined to bed the greater portion of the time, and, not being able to retain any form of artificial support, suffered frequent and distressing dysuria and fermenting and alkaline urine.

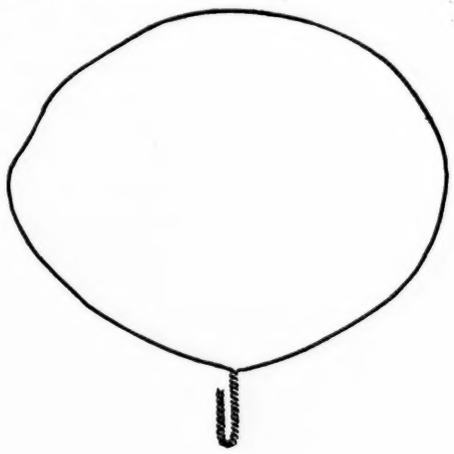

FIGURE 5.

The operation proved satisfactory for five years; after that time she was lost sight of. A result of this kind in a woman 60 years of age, who was placed in charge of the children of an orphan asylum, with the exertions her duties required, speaks well for the method of operating.

CASE 4.—Mrs. G., Decatur, Ga., aged 65 years, presented a bladder protruding through the vaginal orifice the size of a goose-egg, with painful and frequent urination from fermenting urine. Confined to bed for the greater part of three weeks, she

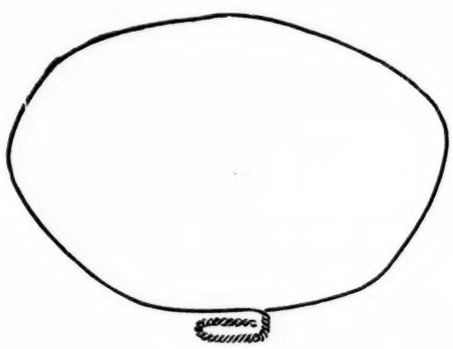

FIGURE 6.

was anemic with relaxed vaginal outlet; no tear in the perineum. The uterus was senile, but engorged, enlarged and dragged down nearly to the floor of the pelvis.

Operation was done with the assistance of Drs. Green and Thomas, and silver wire, No. 26, used. Approximation was nearly circular, the denudation being oval in shape. The center was imperfectly closed, leaving a slight aperture in the center where the tissues crowded together. Here the advantages of the diamond-shaped denudation were shown, as the sharp angles formed by the four sides of the quadrangle fitted accurately into each other so as to prevent gaping of the wound. Success was all that could be expected. The cystocele was relieved. The dragging uterus was relieved of its strain and

weight, consequently it resumed its normal position. The cystocele was not of very long standing.

CASE 5.—Mrs. C. O., aged 54 years, was admitted to Grady Hospital July 16, 1898. Urine: Color normal, specific gravity 1028, acid, small amount of albumin, much oxalate calcium crystals; no casts. The perineum was torn to the sphincter ani, a vesicocele, like a large pear, protruding from the vagina.

I operated on July 28, with diamond shaped denudation; wire purse-string suture, buried; superficial suture, catgut. A flap operation was done on the perineum, with wire and catgut. The stitches were removed Aug. 5. The results were perfect.

This case is selected as an illustration because the operation was done in the presence of Major McDonald, Surgeon U. S. V., of Albany, N. Y. The diamond was drawn together with buried silver wire, No. 28, and the margins of the wound whipped over with small catgut. The results were excellent and the wire was successfully buried. At last accounts the patient remained well and free from polyuria or prolapse of the bladder. The dysuria was completely relieved.

131-133 S. Pryor Street.

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## INDIVIDUAL PROPHYLAXIS.

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The question of individual prophylaxis includes preventive measures against bacterial and all other diseases and morbid conditions other than inherited structural changes and pathologic processes. What I will say will be limited to a few features of bacterial diseases.

In bacterial diseases we must never lose sight of two groups of factors: 1, the invader and its modifiers, and 2, the defendant and his modifiers. In the case of epidemic diseases the first of these is of supreme importance. However, even here the second is a factor, for even in times of severe epidemic not all of those who inhale or otherwise take in the bacterial cause have the disease, even though they have not the immunity acquired by a previous attack or by intermittent association.

In the case of endemic diseases, the second factor, namely, the individual and his modifiers, becomes of major importance. However, the first factor is not to be lost sight of, for, with influenza bacilli present in mucous secretions that are normal, and there being no such thing as acquired influenza immunity, in the ordinary acceptation of the term, it follows that there must be variance in the chemistry of the influenza bacillus.

Levy and Klemperer say: "From the constant contact with the infective bacteria to which man is continually exposed, infections would be far more frequent than they really are if the predisposition of human beings to bacterial disease were not on the whole but inconsiderable. In general, the power of resistance of our tissues against bacteria is so great that for infection to take place an additional special contributing cause that diminishes this power of resistance, in other words, a predisposing influence is necessary."

When we study the individual as a factor in infectious diseases we find many subsidiary factors. There is inherited immunity acquired by an attack of the disease, by an attack of a similar disease, by intermitting exposure, etc. In addition to these influences retarding infection, there are factors aiding it. I will restrict what I have to say to four of these: 1. Mental depression. 2. Overexertion. 3. Cleanliness. 4. Exposure to cold.

*Mental Depression.*—We have illustrations in the experience of every one that temporary susceptibility can come from mental depression. Every text-book article on susceptibility and immunity gives mental depression as a predisposing cause. This is a very considerable factor in infection in its inception; it can also be a factor in its continuation. The patient with an infectious disease, who is frightened or otherwise depressed, has a lessened chance of successfully resisting.

*Overexertion.*—The effects of overexertion are matters of constant laboratory observation. The dog treadmill and the rat-cage with a revolving attachment are matters of almost habitual class demonstration. The only point that I wish to raise here is: Is it not possible that at times our physical treatments are too vigorous? For example, some surgical dressings, especially those of fractures; the prolonged maintenance of one position in bed, whether that position is difficult or the easiest possible; the prolonged maintenance of head-low-position after hemorrhage; vigorous tubbing, etc.

*Cleanliness.*—A few years ago one of the most brilliant younger members of Chicago's medical profession quit that for the soap business. In a recent private letter he claims continued kinship with the medical profession because the soap profession is the cleanest of professions.

Two sides of the dirt question require no word: The first is, dirt as one of the elements of bad hygiene; the second, dirt as a carrier of infection in wounds. There is an unorthodox side about which I wish to say a word. Suppurative conditions and suppuration-bacteria are endemic. In ever-present diseases the personal equation of the individual attacked is the larger factor. Is not cleanliness increasing our susceptibility to pus processes, both as prime causes of localized abscesses, metritis, appendicitis, and diffused disease conditions—septicemias and pyemias—and as complications of other diseases, such as tuberculosis and typhoid. Fowls do not have suppurations. It is difficult to infect guinea-pigs, rabbits, and, in fact, any of the lower animals with pus cocci. Wounds of the feet of horses and other domestic animals do not ordinarily suppurate. Tuberculosis in such animals frequently makes fibrous, often caseating lesions. Sometimes liquefying areas are found. Suppuration is altogether exceptional.

It is a matter of common observation that wounds on the hands of farmers and machinists, where cleanliness is not possible, seldom suppurate. Wounds on the hands of people whose work does not soil the hands are very prone not only to local infection, but they frequently serve as portals for more or less general lymphatic or blood infection. Susceptibility and immunity of a given area entirely regardless of general susceptibility and immunity have been demonstrated in the case of the rabbit's ear.

I have seen postpartum infection of negro women of the less cleanly type yield speedily to the most rudimentary cleanings. Infections in white women, seemingly much less violent and combatted by cleanings that were much more thorough, have been inefficient.

*Exposure to Cold.*—It would consume space unnecessarily to cite proof that exposure to cold, to heat, to wet, etc., can determine infection in both man and the lower animals. It is quite possible that the mechanism lies in the vasomotor apparatus alone. Again, it is possible that it pertains to the vasomotor apparatus and the local cells combined. The only point I wish to make here is: To protest against the policy of protection; to be specific, woolen underwear, rubber shoes, chest protectors, throat mufflers, hot Scotch, etc.

Our resisting capacity, whether vasomotor, biologic, or something else, does not differ from our muscle capacity in the particular that, if it is exercised, it grows; if it is not it diminishes. If certain zones of the body surface are never allowed to get cool, then a sudden local chilling results in infection. But education can make those areas indifferent to the effects of chilling. One of the predisposing factors is removed. If the feet are habitually dry and warm, cold and wet will determine infection. If no attention is paid to whether the feet are wet or dry, they cease to be predisposing factors in infection. The neck can be trained to the same hardihood and the same indifference to changes of atmospheric conditions as the face, both in its relation to infection of the throat, and to general infection. I am trying to emphasize the habit side of this question. What I have to say does not apply to isolated exposures.

## STATEMENT MADE BEFORE THE COMMITTEE ON PUBLIC HEALTH OF THE NEW YORK ASSEMBLY

AT THE PUBLIC HEARING ON ASSEMBLY BILL 759, REGULATING AND LEGALIZING THE PRACTICE OF OSTEOPATHY IN THE STATE OF NEW YORK AND FIXING PENALTIES FOR THE VIOLATION THEREOF.

JAKOB BOLIN.

NEW YORK CITY.

The New York Medico-Gymnastic and Massage Society, incorporated under the laws of the state, has a membership of graduates and non-graduates of medicine who practice those branches of therapy, which are denoted in the name of the society. When this society resolved to appear before you through delegates, it was thought advisable that both these elements in its membership should be represented in order that the opinion might not prevail that the physicians among us carried things with a high hand, but to let it be known to you that whatever differences of opinion there may be on other questions, all the members stand hand in hand on this particular one. I have been elected to represent the laity in our society, and to give you our views on this matter.

The questions for me to answer are simply these: what relations exist between osteopathy on the one hand and massage and medicogymnastics on the other? What are their similarities and differences? And how does this bill, if it becomes law, effect those who practice massage and medicogymnastics?

Let me then state that here, as in so many other cases, the old saying slightly changed is true: What is good in osteopathy is not new, what is new is not good. Manipulations and movements have been used in therapy from time immemorial. It is not necessary to refer to the ancients, but you should know that from 1804 they were set into system in Sweden by P. H. Ling, and were in 1813 recognized by the government as a legitimate branch of therapy, and at the present time they are so recognized. But even in that country where these practices are unqualifiedly better understood than anywhere else, where the course of instruction has a duration of three years, and the students must have a preliminary knowledge corresponding approximately to the academic degree of B. A. before they may even enter upon their professional studies, the government does not allow the independent practice of the graduates of its own institution, but requires a certain amount of co-operation between them and the legalized physicians. In this bill it is proposed to give independent practice to persons who may have taken a course of a month or a correspondence course of a few months. When the standard of medical education in the state has been laboriously raised to approach that of Europe, is it not an arrogance, an audacity, a crime, aye, even a stupidity, which is perhaps still worse, to try to degrade it with one stroke?

The treatment of disease by manipulations and movements is not, then, a new discovery, as claimed. Nor is it new in this country. From Sweden it was introduced into New York by two physicians, the two brothers Taylor, in the fifties, and it is now practiced more or less successfully by several hundred persons all over the country, who have gained no new knowledge from the osteopaths. I have here some works by osteopaths, and some by gymnasts. It was my intention to demonstrate by the pictures in them their similarities of procedure. The denial by the osteopaths of authoritative value to the works published in their name would, however, make such demonstration invalid.

Have our physicians taken any interest in these matters? A great variety of manipulations were collected in 1835, by Dr. Martin, of Lyon, and under the name of massage they have been studied and applied by several of the most noted physicians of our era. The celebrated Esmarch, late surgeon-general of the Prussian army, was one of its most pronounced advocates. Zabludowsky, Mosso, and a host of others have studied its physiology. Dr. Metzger has gained world-fame in its application.

Now these men who come before you to urge this bill, which under the guise of breaking the monopoly of the physicians, endeavor to set up a monopoly in this particular branch, shutting out completely us who have practised long before osteopathy was thought of, these men are simply very poor imitators of their predecessors, very poor not only in so far that they apply only part of the means at our disposal, but poor also in the sense that they apply what they do use upon absolutely false and preposterous grounds. They see dislocations and subluxations everywhere. Last summer there came under my care a case of locomotor ataxia where they had diagnosed a dislocation of the spine. Less than two months ago I received from one of the most prominent neurologists in the city of New York a patient with localized cerebral venous stasis. They had "discovered" a subluxation in his neck! That is one difference between them and us. We take the diagnosis of the physician. They claim to make their own diagnosis and it is practically always the same. Why, if any one of you should put yourself in their care you would undoubtedly be found to have a dislocation of the neck. And still I will warrant that it is not your heads which have been turned, but theirs—turned completely around and topsy-turvy into the bargain.

The society, which I have the honor to represent, endeavors to gradually embrace all the reputable practitioners in this mode of treatment. And one of the cardinal points in our declaration of faith is this, that there must be co-operation between the physician and us, that the diagnosis lies outside of our sphere, that we are not prepared for it, and this notwithstanding the fact that most of us have looked far deeper into the etiology and pathology of diseases than these gentlemen with their peculiar notions. When we have got the diagnosis made by a reputable physician, we undertake the treatment in suitable cases, and so far as technique is concerned I have yet to learn of undue influence by the medical fraternity, at least the foremost among them. They recognize that those of us who have made a conscientious study of this matter during several years understand it far better than they themselves, while we bow to them without hesitancy so far as diagnosis is concerned.

It is rumored that an esteemed gentleman here present, Mark Twain, is to speak on the opposite side of this question. I do not know what his acquaintance with osteopathy, so-called, may be, but this I do know, that he himself has gained his first insight and benefit from manipulations and movements not from them but from Swedish gymnasts at Sanna in Sweden.

Let this bill become a law and havoc will be played with the health of the community. You will make impossible the endeavors of our society to raise the standard, so as to become an honor to the country. You will frustrate the plan, now in progress, to found a school where the science and art of this branch of therapy may be taught in accord with the doctrines of science. Defeat the bill and you will uphold our hands, and you will shortly see in New York City a school worthy of the imperial state, a school conducted by citizens of this state, a school which shall put the diploma factories in the west to shame.

7 West One Hundred and Twelfth Street.

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SATURDAY, APRIL 6, 1901.

## THE EMBRYOLOGICAL BASIS OF PATHOLOGY.

In the Middleton Goldsmith lecture before the New York Pathological Society, March 26, 1901, Minot discussed the relations between pathology and embryology.[1] Embryology and pathology—more particularly pathological anatomy and histology—both deal with problems of development of anatomical forms; and naturally the laws of organization of normal structure must be of fundamental importance to the student of abnormal structure and function. Minot first discussed normal differentiation, beginning with the fertilized ovum, which, though a very complex organization, is an undifferentiated being with a protoplasm of apparently uniform structure, every part of which is capable of producing any or all of the tissues of the adult. During the process of differentiation each successive stage limits the range of possible change, and before long the potential fate of the cells is limited by the conditions of layership, as Minot terms the relations of the cells to the germ layers, the three distinct primary strata—ectoderm, entoderm, and mesoderm (mesothelium and mesenchyma). Each of the three layers has specific functions to carry out in the further work of differentiation and histogenesis. He emphasizes the fact that recent efforts to upset the basic doctrine of the specificness of the cells of the germ layer have failed completely, the conclusions of Klaatsch and others against this doctrine having been based upon erroneous observations.

Differentiation in one direction terminates the possibility of differentiation in other directions so that there is no reversal and no transformation of the cells of one layer into cells with the capabilities of those of another layer. Hence pathological cell processes are still governed, as generally taught, by the law of the specific value of the germ layers. Various types of cell differentiation are recognized: the epidermis, derived from the ectoderm, presents in its basal layers cells that remain embryonal while the cells of the upper layers are more highly differentiated, and in the nervous system, also derived from the ectoderm, certain cells, namely the neurons, lose altogether the power of multiplication. In the mesoderm differentiation attains its highest maximum; here the endothelial cells, the red blood-cells, and the sexual cells are specialized precociously, retaining the embryonic power of proliferation at the same time as they can only reproduce their like. In the case of the connective tissues of the mesoderm, cells are arrested in their development at various stages in differentiation. Minot urges the adoption of mesothelium to designate the epithelial lining of the abdominal and thoracic cavities because it is genetically different from the endothelium of the blood and lymph vessels. Up to this point the changes referred to have all been of constructive character; but they are eventually succeeded by changes of an entirely different nature, namely destructive. These destructive changes fall into three main groups: direct cell death; necrobiosis, or indirect cell death, preceded by structural changes in the cells; and hypertrophic degeneration, or indirect cell death, preceded by growth and structural changes as seen in the uterus after pregnancy. Necrobiosis and hypertrophic degeneration are normal processes, and may play a very important rôle in the life history of the individual. This phase in normal development is but little discussed outside of works on pathologic subjects, presumably because the traditional use of the terms mentioned carries with it the idea that the processes occur exclusively under pathologic conditions. It is seen that the changes, which occur in the death of cells, are nearly identical under normal and pathologic conditions. And the dead cells are removed by the same means under the two conditions, namely, mechanically as by sloughing and shedding, by chemical means (solution), and by phagocytosis. In the absence of a suitable term to designate the entire series of changes, progressive and regressive, of cell-structure, Minot proposes the word "cytomorphosis," which includes " all the structural alterations which cells, or successive generations of cells, may undergo from the earliest undifferentiated stage to their final destruction."

In applying the laws of normal differentiation to pathological processes, Minot dwells especially upon the current classification of tumors, which though based on embryonic grounds permits such errors as placing glioma, an ectodermal derivative, among mesodermal tumors. Several similar inconsistencies are noted. He suggests that carcinoma, now regarded as including a definite form of tumor, probably includes various distinct forms each with its peculiarities according to the layership of the cells from which it springs. From the standpoint of differentiation the cells of the basal layers of the epidermis, of the entoderm, and of certain mesenchymatous derivatives should possess the most marked powers of proliferation, and this has certainly been found to hold good in pathologic processes; for we know that it is precisely in these cells that tumors and other proliferations especially start. Liver cells, muscle cells, and nerve cells have but little power to form tumors because more highly differentiated. It is furthermore emphasized that most if not all pathologic necrobiosis and degenerations of cells are identical with normal processes of cytomorphosis, being pathologic solely on account of abnormality in time and place. Enough has been cited to show that embryology and pathology deal

1. Boston Med. and Surg. Jour., March 28, 1901.

with similar problems of cell life. Both await anxiously the discovery of the causes of cell differentiation and histogenesis. Experimental morphology, the new science, by means of which it is hoped to secure control of cell differentiation, may yet prove of the greatest practical importance in furnishing the physician with the means of attacking a number of diseases at the point of their departure, namely in erroneous differentiation.

## THE PREVENTION OF VENEREAL DISEASES.

Although gonorrhea, chancroid and syphilis are occasionally conveyed through other channels than that of sexual intercourse, such a mode of transmission must be looked upon as exceptional and accidental; and these diseases, therefore, are with propriety designated venereal. That all are more prevalent than is good for the welfare of society, no one will doubt or deny, and despite various attempts, no measure yet applied has proved successful in their prevention. While the actual exciting agents of syphilis and chancroid have not been isolated with accepted certainty, sufficient is nevertheless known with regard to the mode of propagating these diseases, as well as gonorrhea—the exciting agent of which is agreed to be the gonococcus—to indicate clearly the lines upon which their spread is to be prevented and their ravages restricted. While it must be obvious that as a result of such knowledge much can be done to limit infection, by observance of the principles of asepsis and antisepsis the most important prophylactic measure must ever remain avoidance, so far as possible, of exposure to the risk of infection.

As the outcome of an investigation made by a special committee of the Section on State Medicine of the AMERICAN MEDICAL ASSOCIATION, appointed to inquire into the questions whether and when a patient who has suffered from an attack of gonorrhea may be permitted to marry, and whether the matter is a proper one for regulation by statute, an affirmative answer was given to the first and a negative to the second, in last week's JOURNAL. Consent to marry is made permissible only after it can be said positively that in all human probability the patient is no longer infective. In the minds of the Committee, "it is doubtful whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable."

With regard to syphilis, Dr. L. D. Bulkley (p. 936) makes a plea that, by reason of the injury it inflicts upon the public health, imperilling not alone those who have been guilty of sexual transgression, but also those who are quite innocent, the disease should, like other transmissible diseases, be placed under the control of the health authorities. In the course of a discussion on the "Ravages of the Venereal Diseases," recently held before the Physicians' Club of Chicago, Judge Lorin C. Collins[1] pointed out the difficulty in reaching an agreement as to proper legislation to be enacted for the purpose of controlling and diminishing venereal diseases, and the obstacles likely to be encountered both in its enactment and in its enforcement. In the course of the same discussion, Dr. Edmund Andrews struck the keynote of the situation in urging education of the public upon the subject of venereal diseases, in order that it may for itself realize the dangers, and intelligently apply the preventive and corrective measures, individually and collectively. The wisdom of such a course seems to have been appreciated by the German Department of Education, under whose auspices a series of public lectures on syphilis and gonorrhea has been delivered by prominent authorities at the Charité Hospital of Berlin and which, after publication in the *Berliner klinische Wochenschrift,* are to be reprinted for distribution among the students at the German universities and among the troops. A course of free clinical lectures on syphilis for physicians was begun on March 6 at the New York Skin and Cancer Hospital, to continue on successive Wednesday evenings until May 1.

The question is a most important one, and its regulation is likely to continue, as it has in the past proved to be a most difficult undertaking. It is clear, however, that the desired results are to be secured, not through any single means, but from a combination of all. The most important of these, as striking at the root of the evil, includes a full knowledge of the nature of the diseases, the methods by which they are conveyed, as well as the means by which such conveyance is to be prevented, and the adoption of all possible measures of prophylaxis, moral and physical, together with the most rigorous and systematic treatment in private and public alike.

1. JOUR. AM. MED. ASSN., March 16, p. 761.

## HISTOLOGIC DIFFERENTIATION BETWEEN TUBERCULOSIS AND SYPHILIS.

At the last meeting of the German Pathological Society an interesting discussion was precipitated by Baumgarten's[1] remarks concerning the differential histologic diagnosis of tuberculous and gummous orchitis. The differentiation of tuberculosis and syphilis is a problem that has a much wider interest than merely that of an examination question in medical schools. Baumgarten points out that quite commonly the macroscopic and microscopic appearances are so typical that the diagnosis is easy, but cases are sure to occur in which difficulties arise. The demonstration of B. tuberculosis is a sure criterion of tuberculosis, but in old, chronic cases of this disease, no matter whether in the testicle or elsewhere, bacilli may not be found in spite of prolonged search, and negative results do not exclude tuberculosis. Syphilis and tuberculosis may occur together, and consequently the finding of tubercle bacilli does not certainly always exclude syphilis. For these reasons the differential diagnosis must often rest on histologic

1. Verh. deut. path. Gesellsch., 1900, iii, 107-121.

grounds. At one time the giant cell of Langhans was regarded as specific for tuberculosis, but the same cell was long ago described by Baumgarten and others in gummatous growths—or growths so considered. From his extensive studies of tuberculous and gummatous testicles Baumgarten has been compelled to change his opinion, and he now believes that in pure syphilitic lesions giant cells are not present. In this opinion he will probably not find many supporters, but it is based upon the observations that cases with Langhans' giant cells contain tubercle bacilli no matter what the clinical or anatomical appearances are. He suggests the possibility that in some of his cases there were combinations of syphilis and tuberculosis, a very difficult problem to decide because of our ignorance of the virus of lues.

What, then, are some of the essential differences between the lesions of tuberculosis and syphilis? Syphilitic lesions consist mostly of small cells, the fibroblasts of syphilis rarely reaching the size of the epithelioid cells of tuberculosis. There are in syphilitic foci no such accumulations of epithelioid cells as in tuberculosis. In the case of the so-called lymphoid tubercle the differentiation is very difficult indeed unless bacilli are found, and they are usually frequent in lymphoid tubercles. While the old vessels disappear and new vessels are not formed in tuberculous foci, syphilitic growths are provided with vessels and capillaries. Syphilitic proliferations may change directly into fibrous tissue, but in tuberculous areas, except in lupus, cicatrization is usually secondary to caseation and absorption of caseous material—a statement to which exception undoubtedly will be taken by many. In gummas, necrosis may occur in the stage of connective tissue formation, an event not yet definitely proved in the case of tuberculosis. The necrosis in gummas is peculiar in that it slowly leads to obliteration of structural details, especially vessels, whereas in tuberculosis structural markings are lost rapidly. In the caseous centers of gummas it may be possible still to recognize the indistinct outlines of the necrotic cells. In the case of the testicle, tuberculosis begins in the walls of the canals of the epididymis while syphilis starts in the interstitial tissue of the testis where primary tuberculosis is exceedingly infrequent. When the syphilitic growth reaches the tubules it causes degeneration of the epithelial cells lining them, whereas tuberculosis induces the epithelium to form giant cells.

In the discussion, Orth and others emphasized the formation in syphilitic lesions of elastic fibers, which are absent in tuberculous foci. Chiari remarked that fibrous orchitis, commonly regarded as of syphilitic nature, frequently is of gonorrheal origin and starts in the canals. This statement seems to have met with general approval. Marchand believes in the direct transformation of tuberculous tissue in mature tissue, and Marchand, Hansemann and others thought that Baumgarten's statement that giant cells do not form in syphilitic lesions went contrary to the facts. Giant cells form in various kinds of connective tissue, that caused by foreign bodies as well as in that caused by specific organisms, hence there is no reason apparent why they may not develop in granulation tissue of syphilitic origin. Baumgarten rejoined that to him Langhans' giant cells were always indicative of tuberculosis, especially in the absence of foreign bodies and larger, evident parasites. But experienced pathologists will have had abundant opportunity to observe that the inoculation in guinea-pigs of tissue containing Langhans' giant cells does not always cause tuberculosis. Giant cells are found frequently in typically syphilitic livers, and in suitable cases of this kind it should be possible to determine definitely by means of staining and by inoculation experiments whether tubercle bacilli are present or not.

## THE RAPID DIAGNOSIS OF RABIES.

The time has surely long passed when serious doubt prevailed as to the existence of hydrophobia as a distinct entity. It is unfortunately true that the hypothetic micro-organism of this disease remains yet undiscovered, but the same statement is applicable equally to other disorders concerning whose identity no question is raised, and which it seems perfectly safe to consider as infectious and therefore of micro-organismal origin, as for instance, measles, chicken-pox, scarlet fever, whooping-cough, rheumatism, smallpox, and typhus fever. Even for some of these, causative micro-organisms have been described, but not with the demonstrativeness and constancy necessary to carry conviction and compel acceptance. With regard to rabies, reliance in diagnosis has been placed in the past upon the biologic method, namely the inoculation of lower animals with an emulsion of the medulla of the suspected animal, but the period of incubation is long and valuable time may be lost by the unavoidable delay. Recently, however, two methods have been proposed by which a rapid diagnosis seems possible, and these are described in an interesting communication presented recently to the Pathological Society of Philadelphia by Drs. M. P. Ravenel and D. J. McCarthy[1]

Pollaillon and Nepveu found the entire cerebrospinal axis from a man dead of rabies markedly congested, and the ganglion of Gasser hyperemic and infiltrated with round or oval cells, some hyaline in appearance and believed to be epithelioid cells from the capsule of the ganglion-cells. Balzer and Benedikt observed distension of the vessels of the nervous centers, with escape of erythrocytes and leukocytes into the perivascular spaces. Kolesnikoff described, in addition, an invasion of the pericellular spaces by round cells in the hemispheres, the cerebellum, the spinal cord and the sympathetic and intervertebral ganglia. Schäffer called attention to hyaline and fibrillar degeneration and vacuolation of the cells of the anterior horns of the spinal cord. Finally Babès, who had previously suggested the prob-

1. Proceedings of the Path. Soc. of Phila., March, 1901, vol. iv, No. 5, p. 89.

able existence of characteristic lesions in the nervous centers, concluded, as a result of numerous observations in dogs and human beings, that the essential lesions of rabies consist in an accumulation of embryonic cells in the neighborhood of the central canal and especially about the large modified cells of the motor centers of the bulb and the cord. Later he pointed out the possibility of making a rapid diagnosis by a microscopic examination of the bulb and the cord and the discovery of the pericellular accumulations of embryonal cells, for which he proposed the name "rabic tubercle." The cells of the bulbar nuclei undergo degeneration and present the various stages of chromatolysis. There occur loss of the prolongations, progressive modification and even total disappearance of the nuclei, dilatation of the pericellular space, invasion of this space and of the nerve-cells by embryonal cells and also small corpuscles, hyaline, brownish and in part metachromatic. Many of the nerve-cells become surrounded by a large zone of embryonal cells, which take the place of completely degenerated cells and constitute the rabic tubercle.

Later Nélis and van Gehuchten found atrophy, invasion and destruction of the nerve-cells in the peripheral, cerebral and sympathetic ganglia and especially in the intervertebral ganglia and the plexiform ganglia of the pneumogastric nerve by newly formed cells derived from the capsule, appearing between the cell-body and its endothelial capsule. These newly formed cells increase in number, invade the protoplasm of the nerve-cell, and finally occupy the entire capsule. The observations of Nélis and van Gehuchten have been confirmed from a number of sources, including observations by Ravenel and McCarthy in twenty-eight cases of rabies in dogs, rabbits, a cow and a human being. In a large proportion of cases the rabic tubercle of Babès also was found. Similar lesions, although they can not be said to be identical, may be found in association with other toxic and irritative states of the nervous system, so that while they may be considered characteristic and under certain conditions diagnostic, they can scarcely be looked upon as specific. In any event we are thus brought one step nearer the solution of an obscure problem, with increased possibilities in the prevention of a justly dreaded disease.

## MALARIA INVESTIGATION IN THE PACIFIC ISLANDS.

Dr. Patrick Manson recently delivered an address before the Epidemiological Society of London, in which, according to the *British Medical Journal*, he said that one of the problems of epidemiology still unsolved is why malaria is present in one country and absent in another, though the climatic conditions in both are the same. Also why the same applies as regards filariasis. He suggested as an explanation that the presence or absence of any malarial disease or filariasis in any particular locality depends on the presence or absence of their respective subserving mosquitoes in sufficient numbers, the presence of the respective mosquitoes being determined not so much by the presence or absence of the essentials for mosquito life, viz., water, adequate atmospheric temperature, and vegetable food, as by the presence or absence of special conditions inimical to special kinds of mosquitoes. Manson suggested a plan for the investigation of this subject in the Pacific Islands, estimating the expense of such an expedition at £2000. Some one who has kept his name a secret, has already contributed one-fourth of this amount, and it is hoped that sufficient funds will be forthcoming for the investigation to be made.

## SPECIAL LEGISLATION TO LEGALIZE HUMBUGS.

A bill was recently introduced in the New York legislature exempting a certain individual from the examinations required by the medical practice act. In this case it is said that the favored party was possessor of a certain remedy which he alone knowing its formula could use with great success, and the plea was made in behalf of the people who would otherwise be deprived of its benefits. The legislature was therefore asked to turn itself into a diploma-mill for the benefit of a secret-remedy proprietor. This would have been a very convenient precedent for other similar acts, and the result that the state would have been flooded with medical practitioners by special legislative enactments. In fact, the *New York Tribune* speaks editorially as if more than one such attempt was either made or contemplated, and very naturally and sensibly protests. But, after all, the licensing of one or two individuals to practice medicine without education or preparation is as rational as doing the same for a whole class as was proposed by the osteopathy bill.

## THE PROTOZOON OF CANCER.

Elsewhere in this issue of The Journal will be found an abstract of a recent lecture by Prof. H. R. Gaylord, of the state cancer laboratory at Buffalo, N. Y. In this he announces his success in inoculating cancer by means of the organism described by him in 1899, and which was subsequently found, by Plimmer, also to be present in the majority of cancers examined. The pleomorphism of the organism, which was supposed for a time to be a yeast germ, has hindered its early recognition, but it appears that with the methods now available it can be readily demonstrated by any bacteriologist and its animal nature confirmed. Dr. Gaylord does not claim the exclusive right to be considered the discoverer of this germ. He credits Sjoebring, Pfeiffer, Plimmer, San Felice, and others with having had their share, but he has correlated their investigations with his own and has apparently furnished the demonstration that was heretofore lacking. There is yet much to do before our knowledge of the subject is even approximately complete, but it is a great step in advance when the germs that can experimentally produce cancer have been found. It is possibly not necessary, as Adami has maintained, that they should always be present in the growth, but that they are present seems to be the case, and this being a fact may materially affect the treatment of the disease and render its prognosis more helpful than Adami seems to hold. If their presence is essential it is to be hoped that in studying their life history

we may find an antidote to this pest of mankind that seems to be yearly increasing in its destructiveness. A verified discovery of the cancer germ may prove to be one of the epoch-making events of the opening century. It is interesting to note that some of the work leading to this apparent discovery was published nearly ten years ago by Pfeiffer, and has only been very recently recognized in its medical value.

## CODE OF MEDICAL ETHICS.

Believing that much of the ignorance on the part of some members of the profession concerning the provisions of the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION is due to unfamiliarity with the Code, and realizing that in most medical schools very little, if anything is taught directly on the subject of medical ethics, the ASSOCIATION has, during the past months, issued a pocket-sized edition of the Code for presentation to the members of the senior classes of all regular medical colleges in this country. These Codes are given gratuitously, one to each member of a graduating class, and already over 5000 copies have been distributed. It is believed that this will result in a higher standard in the majority of these young practitioners. We feel confident that no one will be injured by reading this little book, although in the eyes of some it is a very vicious document. On another page we reprint some remarks on the value of the Code to medical students, from one of our exchanges, and recommend its perusal by our readers.

## OSTEOPATHY VS. MASSAGE.

Elsewhere in this issue appears the statement of Mr. Jakob Bolin, representative of the New York Medico-Gymnastic and Massage Society, before the Committee on Public Health of the New York Assembly, having before it the assembly bill No. 759 regulating and legalizing the practice of osteopathy. It was presented, it appears, before the widely noticed plea of Mark Twain, and ought to have somewhat modified its force with the members of the committee when they considered the fact that all his favorable experience had been with honest Swedish massage instead of the Missouri fraud, osteopathy. Mr. Bolin's exposure of some of the common mistakes of these pretenders ought to have prepared the legislators to properly appreciate the value of verbiage made up by the literary bureau of the Still manufactories. Whatever is of value in osteopathy is massage; in spite of their denials the osteopaths are simply masseurs, but using their methods with an ignorance and presumption that is liable to make their manipulations perilous in some of the graver cases they too often venture to treat. Its speaks ill for the scientific culture and general intelligence of the country that such palpable pseudoscience as the utterances of the Still propaganda should find so many dupes.

## RECIPROCAL SANITARY MEASURES.

The recent brilliant showing of the U. S. health authorities in Havana has called out some comment. The *Boston Herald,* in its remarks, suggests that the Government also try its hand on some of our southern cities whose "happy go lucky ways of guarding the health of the people" court pestilence and disaster. If we are to hold Cuba under guarantees to maintain satisfactory sanitary conditions, it would be only fair for our South Atlantic and Gulf cities, as well as those farther north, to be under similar enforced obligation. The *Charleston* (S. C.) *Courier* editorially endorses the view, saying that the remarks of the *Herald* are by no means impertinent. The officially reported annual mortality of some of our southern cities, it says, "tells the story of their condition to the outside world too plainly for denial or misplaced indignation on their part." This is strong testimony from such a source, and it is certain that not all our southern or even our northern municipalities can make as favorable a showing as the recent one from Havana with all its climatic disadvantages. The recent exhibition of ostrich policy of a certain state government is in point in this connection, and all these facts emphasize the need of the introduction of sanitation into the questions considered by international law. In this as in other matters there is room for international comity and regulation.

## "THE PUNISHMENT TO FIT THE CRIME."

A writer in a sociologic publication[1] finds that one method of punishment for crime is defective in so many ways that a radical change is demanded, and suggests one so radical and revolutionary that it is strange it has so far escaped comment. Punishments are not reformatory because the mass of criminals are not reformable, and it is impossible with present means to secure the needed environment among the aggregations in our prisons. The old retributive idea of punishment is being abandoned, and while the sequestration of the criminal is still a need for the defense of society, the question what is to be done with him becomes more and more a problem. We are getting to a state in which we can not work our criminals to advantage because the trades unions forbid it, and we can not keep them in idleness and confinement because that means mental breakdown and is, in the eyes of the philanthropist, the worst alternative of all. Every member of society, even in a prison, should have his utility, and the author in question sees this for the incorrigible in making him of benefit to the race in deciding scientific questions, in other words a subject for experiment for scientific purposes. It has been said that the worst use to which a man could be put is to hang him, and this idea was doubtless in the mind of the sociologic student in question. While it is a little odd that the idea should be seriously propounded—at least to all appearances— it is much more likely to come from such a quarter than from any one even remotely connected with the medical profession. It would not be surprising, indeed, if it should receive the endorsement of some antivivisectionist zealots, for zoophilism and genuine philanthropy, understanding by the word a real love for their own species, are sometimes mutually exclusive. Science can get along with the necessary occasional sacrifice of the *corpora vilia,* and certainly does not ask for human sacrifices, even of murderers. The days of Herophilus and Erosistratus have not yet come again and it is to be hoped never will.

1. Am. Jour. of Sociology, March, 1901.

# Medical News.

## ALABAMA.

Dr. **Willis W. Scales,** Mobile, has been elected assistant quarantine physician.

**Birmingham Medical College** held its annual commencement, April 1, when degrees were conferred on a class of fifteen.

The **quarantine board** of Mobile Bay held its annual meeting at Mobile, March 13, adopted rules and regulations for the present quarantine season, and elected officers.

## CALIFORNIA.

**Smallpox** is increasing in San Francisco. On March 26, thirty-five cases were on the records of the health office.

The **State Board of Medical Examiners** has been sued by a graduate of the San Francisco short-term college recently referred to editorially in THE JOURNAL. He accuses the board of bias and is endeavoring to compel the issuance of a license in his case.

**The legislature** has appointed a committee to investigate the feasibility of establishing a state hospital for the treatment of tuberculosis, in the southern part of the state. Great opposition was offered on the ground that the establishment of such an institution would flood the state with consumptives.

## ILLINOIS.

Dr. **Andreas Johannes,** Peoria, will leave in a short time for Berlin, where he will take a post-graduate course.

Dr. **John W. Kelley,** formerly of Augusta, has been appointed physician at the Quincy City Hospital, vice Dr. Williams.

Dr. **Joel G. Williams,** Quincy, met with a serious accident March 22, fracturing his hip. The injury is the more grave owing to Dr. Williams' advanced age.

**Two veteran physicians** of Champaign County, Drs. Charles H. Mills, Champaign, and Samuel S. Salisbury, Tolono, who have each been in practice fifty years, are to be given a banquet by the Champaign County Medical Society, April 11.

Dr. **John Milton Holt,** assistant surgeon U. S. M.-H. S., in charge of the marine hospital at Cairo, has been transferred to Chicago. He will be succeeded by Passed Assistant Surgeon James Hurdus Oakley, who has been stationed at Queenstown, Ireland.

### Chicago.

Dr. **Rudolph W. Holmes** and wife arrived in Chicago April 1, after a year's absence abroad.

**Diversion of sewers** is said by Health Commissioner Reynolds to have reduced the mortality from impure-water diseases in the district affected, 60 per cent. since 1898.

**The Baptist Hospital** lost an estate of $2000, left to it by a former patient. The probate court refused to admit the will to probate on presentation of evidence that the devisor was not of sound mind at the time the will was drawn.

**Unvaccinated School Children.**—In the case noted in THE JOURNAL of last week, Judge Dunne has reversed his decision in all except one child who suffered from heart disease which the family physician declared might be aggravated by vaccination.

**Chicago's Smallpox.**—The smallpox situation was substantially unchanged at the close of March, the figures showing 36 cases in the Isolation Hospital at the close of February, 38 admitted during March, 39 discharged, 35 remaining under treatment March 31, and no deaths. The record of "never vaccinated" remains unbroken.

**March Mortality.**—This was about the lowest for March in the history of the city. Between 1890 and 1900 the number of deaths in March averaged 2279, the lowest being 1821 in 1894, and the highest 3405 in 1891. In the month just ended there were 1958 deaths, or 14 per cent. less than the average of the actual number of deaths and 20 per cent. less than the average deaths per 1000 of population.

## KANSAS.

**Damages for Quarantine.**—The secretary of the State Board of Health has been sued by a Horton woman who avers that she suffered damage to the extent of $5000 while in a temporary isolation hospital on account of smallpox, by inattention on the part of the medical authorities.

The **New Medical Practice Act.**—The last legislature passed a new law governing the practice of medicine in the state, which goes into effect this week and provides for a board of seven members who are to be appointed by the governor. Three members will be selected from the regular school, two from the homeopaths and two from the eclectics. The appointments will probably be made in May, as Governor Stanley has requested a list of physicians from the state societies, from which he will choose the members of the Board. The regular meetings of the Board will be in February, June and October. All applicatons must be approved by at least five members of the board before the certificates to practice can be issued. The certificate fee will be $2 and the examination fee $15. Osteopathy and "Christian Science" are not barred, provided the graduates are from some reputable school and agree to obey all quarantine regulations. Medical students may practice if approved by a majority of the physicians of their particular locality. Graduates of optical colleges are admitted by passing an examination before the Board. The penalty for violation of the law and practicing without a license is a fine of from $50 to $200.

## KENTUCKY.

**Dr. John P. Gilmer,** Louisville, has been commissioned as ad interim examining surgeon for the local pension bureau.

**Norton Infirmary.**—Ground will shortly be broken for the new addition to the Norton Infirmary, which will give two new operating-rooms and about fifty additional beds.

**Graduation.**—The annual commencements of the Louisville Medical College and the University of Louisville's medical department were held on March 27 and 28, respectively, both schools graduating large classes.

**Good Samaritan Hospital.**—This Lexington institution has selected the following medical staff: Dr. Henry M. Skillman, consulting physician; Dr. Charles W. Norris, consultant on diseases of eye, ear, nose and throat; Drs. Benjamin L. Coleman, Joseph W. Pryor, Frank H. Clarke and James C. Carrick, medical; Drs. George D. Kelley, Walter O. Bullock, Jr., John W. Scott and Thomas Lewis, surgical, and Drs. Claude W. Trapp, John Y. Oldham, and William B. McClure in special departments.

## MARYLAND.

**Carroll Monument.**—A movement has been started to erect, by public subscription, a monument to Dr. Thomas King Carroll, whose remains rest in old Trinity Church cemetery, near Church Creek, Dorchester County. So successful has been the movement in the community where this gentleman labored for over a half century as physician and friend, that already the order for the monument has been given. It will be of white Italian marble, the shaft 10 feet 8 inches high, carved in laurel wreath with appropriate inscription.

### Baltimore.

**The Baltimore sewerage bill** has passed the Maryland legislature.

**University of Maryland Medical School.**—A five-story wing for a maternity will be erected on ground recently purchased near the hospital; the students' building for internes will be remodeled, and the regents are negotiating for the present law building, which will be rebuilt, remodeled and made the "Hitchcock Laboratory," in honor of the alumnus who gave the bequest with which the purchase is being made.

## MICHIGAN.

**Saginaw** is to have an isolation hospital with accommodation for ten patients.

**The Isolation Hospital** for Chippewa County is completed and has been accepted by the committee who had the matter in charge.

**The remuneration** for the physicians who cared for the smallpox cases in Marquette County has been fixed by the supervisors at $20 a day.

**Dr. G. Parker Dillon,** Grand Rapids, has received an appointment as acting assistant surgeon in the Army, and has been ordered to report at Fort Sheridan, Ill., for duty.

**Lansing City Hospital.**—This institution will have the following medical board: Dr. Rush J. Shank, chief of staff; Dr. L. Anna Ballard, secretary; Drs. Charles N. Hayden, Lansing; Sidney H. Culver, Mason, and Alden G. Sheets, Eaton Rapids, consulting surgeons; Drs. Harry A. Haze, Alexander D. Hagadorn and G. Franklin Bauch, all of Lansing, attending surgeons; Drs. Frank W. Shumway, Williamston; Thomas M. Sanford, De Witt, and John E. Hinkson, Wacousta, consulting physicians; Drs. John F. Campbell, Freeman A. Jones, Frank M. Thoms and William W. Munn, all of Lansing, at-

tending physicians; Dr. Johnson W. Hagadorn, consulting oculist; Dr. Joseph Foster, attending oculist; Dr. Robert E. Miller, attending neurologist; Drs. William A. Davis, Grand Ledge, and John A. Mapes, Dimondale, consulting gynecologists; Drs. Chauncey Barber, Rush J. Shank, Lansing, attending gynecologists; Drs. Gertrude D. Campbell, Mason, and Elwood D. Wilson, Bath, consulting obstetricians; and Drs. L. Anna Ballard, Theodore Cole and Cora P. Ganung, Lansing, attending obstetricians.

## MISSOURI.

**Kansas City Medical College** graduated a class of 43, March 22.

**Dr. A. H. Hull,** Carthage, recently lost $2500, in office furniture, instruments, etc., by fire.

**University Medical College,** St. Louis, held its annual commencement April 3, and conferred diplomas on seventy graduates.

**Dr. H. L. Walker,** St. Joseph, who has had charge of the smallpox cases in the Buchanan County jail, has been appointed jail physician.

**Dr. James L. Day,** Lebanon, who has been on duty with the Army in the Philippines, will leave Manila, May 1, and return to Lebanon, where he will resume practice.

## MONTANA.

**St. Peter's Hospital, Helena,** was damaged by fire, May 16, to the extent of about $20,000.

**Diphtheria** is reported to be epidemic among the Kootenai Indians at Dayton Creek; seven died in the last week and the agent fears that the Indians may become panic-stricken and attempt to leave the reservation.

**The Smallpox Situation.**—In Billings this is improving. There are only six cases in the city and about thirty at the pest-house. There are no cases in the railroad camps, but an isolation hospital has been established at Pryor Gap. At Anaconda, the disease has been stamped out, and the hospital has been closed. During the last two seasons 424 smallpox patients were treated, only five of whom died.

## NEBRASKA.

**Dr. Julius Lingenfelder,** West Point, sailed for Hamburg, March 30.

**Dr. Augustus Anderson,** Norfolk, has also left for Europe, to take post-graduate work at Berlin.

**Osteopathy** has received the stamp of approval by vote of the legislature, but the bill has not yet been signed by the governor.

## NEW JERSEY.

**Several new cases** of diphtheria have been discovered in Gloucester county during the past week.

**Dr. William H. Shipps,** Bordentown, has been appointed a member of the State Board of Medical Examiners.

**Dr. Joseph Doherty,** the new resident physician at the Atlantic City Hospital, assumed charge of the institution on March 25.

**Dr. Louis A. Denis,** West Hoboken, and Edward C. Armstrong, Weehawken, have resigned from the medical staff of the North Hudson Hospital, Union Hill.

## NEW YORK.

**Dr. Joshua E. Sweet,** Unadilla, who has been studying in Germany for several years, has obtained his doctorate degree and is now taking a special course in bacteriology at the Pasteur Institute, Paris.

**Batavia Hospital** is now assured. The $10,000 asked for has been obtained and this will insure about $2000 additional, which was subscribed on condition that the former amount be first raised. The site has been purchased and the plans prepared, and the work of construction will be in progress in a short time.

### Buffalo.

**Dr. James E. King** recently sailed for Europe to spend six months in study.

**Dr. Edward E. Blaauw** has been appointed editor of Dutch ophthalmic literature in the *Annals of Ophthalmology*, in the place of Dr. Wendell Reber, resigned.

### New York City.

**Indicted for Neglect.**—J. D. Pierson, a strong believer in healing by faith, has been indicted, and held in $1000 bail for trial, charged with violating the penal code in neglecting to furnish medical attendance for his 2-year-old child, who died from pneumonia.

**Scarlet Fever.**—This is very prevalent in this city at present, though it is of a milder type than last year. Since January 1 4959 cases have been reported, distributed in the different boroughs as follows: Manhattan, 3175; Brooklyn, 1382; Bronx, 278; Queens, 77, and Richmond, 47. An unusually large number of adults have contracted the disease, which has been quite evenly distributed among the tenements and among the better classes.

**Control of City Hospitals.**—The committee has reported favorably on the plan to change the management of the city hospitals. The bill provides that the control of Bellevue Hospital, and the Fordham, Harlem, Gouverneur and the Emergency hospitals shall be vested in a board of trustees of seven members, together with the Charities Commissioner, appointed by the mayor from lists presented by the United Hebrew Charities, the special council of the Society of St. Vincent de Paul and the New York Association for Improving the Condition of the Poor.

**Power of "Christian Scientists."**—Some idea of the power of this cult may be gained from a reported statement of a member of the legislature, to the effect that in their efforts to defeat the so-called "Bell" bill they went into the district of every member of the Assembly, developed to the utmost there the "Christian Science" sentiment, and then coolly informed the representative of such district that if he did not vote against the bill he would not be returned to the assembly. It was said that this threat was accompanied by a statement of the number of votes controlled by the "Christian Scientists," with means for verifying them.

**Alleged Hospital Abuses.**—Sensational charges have been made by a wealthy importer, against the city's smallpox hospital on North Brother Island. His statement, given out to the newspapers, is specific and circumstantial, but comprises briefly assertions to the effect that while he was an inmate of that hospital, from March 9 to March 22, the bedding in several wards was in a horribly filthy state; that there was but one attendant—and that untrained—for twenty-six patients in the acute ward at night; that the patients were not given sufficient food; that they were roughly treated when being taken from the steamer dock to the wards; that disinfection was perfunctory, and that the health board inspectors took little precaution against carrying the disease back to the city. On the afternoon of the day these charges were published representatives of several newspapers accepted the invitation of the president of the board of health to accompany him on a tour of inspection of this hospital. The reports of these visitors have failed to substantiate the charges and assert that there was little or nothing to justify the suspicion that preparations had been hastily made for this visit of inspection. On the other hand, Mr. Martin stoutly asserts that one of the hospital employes, whose name he has given, has informed him that a warning was sent to the hospital, and that every possible preparation was made before the inspection, even to the extent of routing night nurses out of bed and putting them at work in order to refute the charge of not having sufficient nurses.

## OHIO.

**Dr. John L. Hervey,** Martin's Ferry, has been appointed surgeon of the Wheeling Terminal Railway Company.

**Dr. David B. Stener,** president of the Cleveland city council, will go abroad early this month to study in Germany for two years.

## PENNSYLVANIA.

**Damages for Smallpox Scare.**—Julius Law, a citizen of Allegheny, has entered suit against the city to recover damages resulting from placarding his house with a sign announcing the presence of smallpox which the plaintiff alleges was not smallpox. The man kept a grocery store and the house was placed in quarantine, and he desires to recover damages resulting from loss to his trade.

**Diphtheria at Parryville.**—This small town, five miles from Mauch Chunk, is threatened by an epidemic of diphtheria and officers of the Board of Health have ordered the public schools closed and many of the books, maps, charts, and other supplies furnished the students will be burned. The town was visited last year by a serious epidemic of the disease, and more urgent measures will now be taken to prevent its spreading.

### Philadelphia.

**The Jewish Hospital Association** will receive the estate of Edward Weinberg, recently deceased—$1000.

The **Germantown Almshouse** will abolish the system of having three outside physicians, and the township has been placed in charge of Dr. E. Sherman Clouting.

**Reception to Dr. Dana.**—The Philadelphia Medical Club, on March 29, tendered a reception to Dr. Charles L. Dana, of New York. Previous to the reception Dr. Dana was entertained by Dr. Edward L. Duer, president of the club. Among other guests present were Drs. William W. Keen, J. H. Musser, James Tyson, Dr. Wharton Sinkler, Hobart Amory Hare, Guy Hinsdale, James M. Anders, and S. Naudain Duer.

**Examination of Eyes and Ears of School Children.**—A movement has been set on foot by Drs. Samuel D. Risley, Edward Randall and others, together with the corps of school medical inspectors whereby it is hoped the Board of Education will adopt a plan to have examinations made of the eyes and ears of all pupils attending the public schools. To a certain extent this has already been done by the corps of volunteer medical inspectors, but the work has not been satisfactory, since a great amount of time is required to do this work thoroughly. It is hoped that school medical inspection will be put on a paying basis, and that the above work can be instituted, beginning with the fall term. Up to this time both branches of city council have entirely ignored the work of the school medical inspectors.

## TENNESSEE.

**Tennessee Medical College,** Knoxville, graduated a class of 40, April 1.

**Fire at Sparta** caused a $500 loss to Dr. D. R. Gist, and a similar one to Dr. James H. Snodgrass.

**Dr. Frank P. Dance,** Lynchburg, has been commissioned captain and assistant surgeon of volunteers and ordered to report at Hongkong for assignment to duty.

**The University of Nashville** held its commencement exercises March 29 and graduated a class of 75. The faculty address was delivered by Hon. James M. Head.

**The alumni meeting and banquet** of Tennessee Medical College, Nashville, was held March 25. After reading of papers, and clinics, Dr. Perry Bromberg was elected president; Dr. William R. Sifford, vice-president, and Dr. Robert L. Hayes, secretary, all of Nashville.

## TEXAS.

**Dr. Walter F. Blunt,** Austin, state health officer, has been obliged to resign on account of continued ill-health.

**Dr. John A. Jones,** Ferris, has been appointed health officer of Ellis County, vice Dr. Charles W. Simpson, Waxahachie, resigned.

**Smallpox** is reported in epidemic form at Thurber Junction, an eating station on the Texas and Pacific Railway, where 23 cases exist. At Brenham, Dr. John B. York, health officer reports that he has 20 cases under treatment.

**Farm for Consumptive Convicts.**—A little over a year ago the state penitentiary authorities established a farm for consumptive convicts, about two miles from the Huntsville penitentiary. Large, airy and comfortable quarters were given these invalids, and they were required to do such light work about the farm as they were able. The result of the experiment has been highly satisfactory to the prison management in every respect. Many men who went to the farm, apparently in the last stages of consumption, are now hearty and stout, evincing not the slightest objective evidence of consumption, and the death-rate from the disease is steadily diminishing. The plantation is made self-supporting by this invalid labor.

## UTAH.

Dr. **Andrew J. Hosmer** has been appointed surgeon to the Holy Cross Hospital, Salt Lake City, vice Dr. F. A. Meacham, resigned.

The **Axton bill,** which authorizes state and local boards of health to make and enforce regulations against malignant and contagious diseases, was unfavorably reported on.

Dr. **George H. Penrose,** Salt Lake City, who went to the Philippines with the troops from Utah, has been made major and surgeon of volunteers. He is at present in this country on sick leave.

New **Quarantine Law.**—The legislature has passed a law quarantining against smallpox and other contagious diseases, which so amends the statute that the quarantine shall be for at least twenty-one days, and includes whooping-cough, placing it on the same basis as scarlet fever or smallpox, except that no flag need be displayed.

## WEST VIRGINIA.

**Marshall County** now has a board of health consisting of Dr. John N. Alley, Benwood, president, and Drs. James E. Cooper, Cameron, and Isaac N. Houston, Moundsville.

## GENERAL.

**San Francisco's Plague.**—The U. S. Marine-Hospital Service has just published a summary of the plague situation in San Francisco as derived from the report of the commission of experts which recently concluded its investigation of plague conditions in that city. Ten cases of plague have been officially reported in San Francisco since January 1, all fatal. Six of these were reported by the special commission in February. The report says that the disease has been officially reported in San Francisco since March 6, 1900, the total cases to date being 32, all fatal. All of these were reported in detail in THE JOURNAL at the time of their occurrence. Following the work of the Commission, Surgeon J. H. White, of the U. S. Marine-Hospital Service was given control of the situation, as a result of a compromise between the California state officials and the Marine-Hospital Service, and the general disinfection of Chinatown and the betterment of light and air space is being provided for, also a suspect hospital, detention houses and morgue. The report says that the disease has been confined almost exclusively to the Chinese, and that the prevailing type is the bubonic, which, while mildly contagious, may give rise to graver forms and emphasizes the necessity of prompt and thorough measures to eradicate the disease.

## CANADA.

**Dr. Crockett** has been elected mayor of Fredericton, N. B.

**The Diet Dispensary,** Montreal, held its annual meeting last week and appointed regular officers.

**Bishop's College,** Montreal, has added a course of lectures on the treatment of accidents and simple surgery. Dr. W. Russell Thomas has been appointed the lecturer on the subject.

**The contagious diseases report** for March, for Toronto, is as follows: Diphtheria, 77 cases; scarlet fever, 57; typhoid fever, 6. The figures for February were: Diphtheria, 91; scarlet fever, 37; typhoid fever, 2.

**Appointment.**—Dr. Manchester, a graduate of McGill University, who was at one time assistant to Dr. Burgess at the Verdun Hospital for the Insane, has been appointed superintendent of the Asylum for the Insane at New Westminister, B. C. Dr. Manchester has been assistant superintendent at that institution for the last three years.

**Hospital Change.**—In regard to the act at present before the British Columbian legislature, to incorporate the New Westminster Royal Columbian Hospital, a deputation recently waited on the city council of New Westminster asking that no medical superintendent be appointed and that the name be changed to the Westminster General Hospital.

**Toronto's Hospitals.**—The various hospitals of Toronto were not so great a drain upon the city in 1900 as they were in 1899. The city's assistance to charity patients consists of 40 cents a day per patient. The total amount given in that way in 1900 was $30,829, as against $37,238.05 in 1899. Of this sum the Gravenhurst Sanitarium got $104.80. Other charitable institutions received $43,895 or $3500 more than in 1899. In the latter sum an amount of $7500 appears for the Sick Children's Hospital.

**Smallpox Circular.**—The Ontario Board of Health has issued a circular to the physicians of the province, medical health officers, and members of local boards of health, on the diagnosis of smallpox. This is the outcome of the alarming spread of this disease during the past month, and the fact that some mild cases have been diagnosed as chicken-pox has also something to do with the sending forth of the circular. It is illustrated with confluent, semiconfluent, and mild smallpox, as well as chicken-pox. The circular is signed by the committee on epidemics, Drs. H. E. Vaux, Peter H. Bryce, J. J. Cassidy and William Oldright.

**Labrador Hospitals.**—Dr. W. T. Grenfell, deep sea missionary and captain of the hospital-ship *Strathcona*, who has spent eleven years among the fisher folk of Labrador, recently addressed a public meeting in Montreal. Speaking of the hospital work in Labrador, Dr. Grenfell said that there were three hospitals, one at Battle Harbor, another at Indian Harbor, and a third now in course of erection at St. Anthony, on the north French shore. In addition to these there is the steamship *Strathcona*, equipped with six beds, and all the necessary appliances, including the *x*-rays, cruising up and down the coast. There are two female nurses, and men

qualified in every way for the work. Last year 1020 cases were handled on the ship; and there were 62 in-patients at Battle Harbor, and 37 at Indian Harbor. Dr. T. G. Roddick has given great assistance to this work. Dr. Grenfell returns to Labrador about the middle of May.

**Peculiar Quarantine.**—There exists in the northwest territories of Canada a very peculiar quarantine. For some time a very unusual condition of affairs has prevailed among the settlers of the Edmonton and Calgary districts. There has been an epidemic of a disease which approaches so nearly to smallpox that two of the doctors in that district aver that it is that disease. Others say that it is either German measles or chickenpox; and this diagnosis seems to be the correct one, from the fact that though there have been over 1000 cases, no deaths have been recorded. The health officers appointed by the Territorial Government stand at the ticket wickets as people are buying their tickets between Edmonton and Calgary and present certificates to every one so purchasing, and then demand $1, and sometimes $2, for these. Armed with one of these certificates, a traveler can come and go as he likes, though he is supposed to be in quarantine all the time.

**Dowie Practice by Wire.**—Death and "Dr." Dowie (in the spirit) recently appeared in Scot's Bay, Kings County, Nova Scotia. This village is said to boast of a disciple of every religion known, and of course had its Dowieite. Ten days after confinement, his wife, who had not been attended by any physician, did not appear to be doing as well as she ought to be at that period, so the wires were put in touch with Dowie's Chicago "prayer office," with instructions to reply, collect. As there was no answer (Dowie was cautious), another message was sent, with return prepaid. Dowie now telegraphed a "prayer," and was answered: "a little better, pray again." He did and wired that at a certain time (Chicago) he would be found working as usual for the Scot's Bay disciple. The woman died, probably as Dowie was committing his specified sacrilege. The whole affair has created great excitement and indignation, and even the Toronto lay press has been most outspoken on the aspects of the case.

## LONDON.

### The Army Medical Service in South Africa.

Speaking at the annual dinner of the Hunterian Society, Sir William MacCormac, formerly consulting surgeon to the army in South Africa, said that neither he nor Mr. Treves attached much importance to criticisms which had been levelled at them of having deliberately misrepresented the conditions in South Africa. Their critics had no proper conception of the requirements of war. The work of the army medical corps had been extremely good under extraordinary difficulties. There were only 800 officers where there ought to have been 1200. It is now suggested in high quarters—which was most deplorable—that the fault lay with the officers. One of two things must be done; either the medical department of the army must be done away with altogether, or, if it is retained, it must be placed on a better footing. Medical officers must be placed on a higher status. Their chief is not accorded the high place he should occupy and which he occupied in other countries. The chief of the German army medical corps occupies a very different position. So far this is quite right. But it is a pity that Sir William MacCormac had not the courage of his convictions to fix the blame on the right shoulders—the war office—which has so bungled in this campaign, both as to medical and military matters. The attempt to fasten the responsibility on the army surgeons is not merely the desire of the military authorities to protect themselves. The army medical service has ever been treated with as much contumely as possible by them, simply because it consists of a body of men who live by their profession and are not fashionable idlers of the upper classes who enter it for the sake of the *eclat*.

### The Infectiveness of the Dust of Houses Inhabited by Consumptives.

Careful investigations on this subject have been made by the Manchester corporation. They were carried out in: 1, houses in which a consumptive lived who was taking no precautions to dispose of his expectoration; 2, houses which were very clean but in which there was a patient who was not sufficiently careful, and 3, in very dirty houses in which there had been no case of tuberculosis for some years. Samples of dust were taken from various situations in the room in which direct infection with sputum was impossible. The dust was mixed with sterilized water and inoculated into guinea-pigs. In many cases the animals died within forty-eight hours, from septicemia. Those which survived were killed after a month and found to be affected with tuberculosis.

### The Sanitation of West African Coast Towns.

Mr. Chamberlain, the colonial secretary, has received an influential deputation consisting of Professor Boyce, Major Ronald Ross, and others, representing the Chambers of Commerce of London, Manchester and Liverpool, and the Liverpool Tropical School of Medicine, who submitted the following requests: 1. That the governments of the various colonies on the West Coast of Africa be invited to prepare schemes with estimates for the complete organization and sanitation of the ports occupied permanently by Europeans, especially with regard to: *a*, removal and disposal of refuse; *b*, surface drainage and removal of bush and undergrowth; *c*, removal of native huts where their presence is a menace to Europeans; *d*, institution of sanitary regulations for the people. 2. That sanitary commissioners be appointed to visit repeatedly these Colonies and report on their sanitary condition. 3. That where new settlements are being planned quarters for Europeans be arranged as far as possible on the Indian cantonment system.

In reply, Mr. Chamberlain said that he feared that a gigantic system of sanitary inspection of the houses of natives as well as Europeans would be too costly. The questions of water-supply, sewage and other points are receiving the careful consideration of the government. He proposed that the chambers of London, Manchester and Liverpool should each appoint a member of a commission to which the colonial office would add one as secretary, and that a scientific expert would accompany it. If these commissioners would show him how to govern the colonies with less excessive expenditure of life and health he would be much obliged.

### The Conflict Between the Medical Staff and the Board of the National Hospital for the Paralyzed and Epileptic.

This unseemly quarrel, which has lasted a considerable time and has produced a controversy in the columns of the *Times* for nearly twelve months, is no nearer a solution. It may be remembered that the medical staff complained of certain defects in the administration of the hospital, such as an inadequate supply of nurses and defective diet of the patients, and that they requested to be allotted two seats on the board as a means of preventing such evils. This very modest request for two seats on a body of twelve has been persistently refused on the flimsy pretext that as the members of the medical staff were officers of the hospital their conduct might be called in question and become the subject of investigation by the board, and thus they would be in the position of judging their own case. The staff then demanded an inquiry into their charges of mismanagement, by an independent body. The board acceded to this and appointed a distinguished lawyer to investigate the matter. But the terms of reference were carefully drawn up so as to exclude proper investigation of the crucial questions, the staff declined to be parties to the inquiry, and it fell through. So the *imposse* continues and the most brilliant staff that ever gave its services to a hospital—men of world-wide reputation who have played a great part in the creation of the science of neurology—Hughlings-Jackson, Gowers, Ferrier, Buzzard, Bastian, Semon, Victor Horsley, etc., have been driven to the verge of collective resignation, and are overruled on purely medical questions by a lay body. But the real source of the difficulty is a certain secretary-director, a paid official who has been placed in the extraordinary position of both servant and master of the institution. All power seems to be concentrated in his hands and the board has become simply his puppets. His latest arguments in the *Times* do not require confutation in a medical journal. He alleges that in consequence of the prejudices of the public against vivisection, and the reputation of certain members of the staff for experiments on animals, an impression has arisen that the hospital might be turned into a scientific laboratory if the staff attained administrative power. Moreover, he fears domination by the staff—domination by two on a board of twelve! The struggle has now reached an acute stage. Unless the very reasonable demand of the staff is conceded, the members will certainly collectively resign, and the foremost position of the hospital will be lost. As Sir William Broadbent points out, secretary-directors and governors are cheap and can easily be replaced, but such men as comprise the present medical staff are irreplacable.

## PARIS.

### Researches on Leprosy.

Dr. Jeanselme, physician of the Paris hospitals, was sent some time ago by the French government to investigate the

sanitary condition of the native population in the French possessions of Tonkin and around Saigon, and he has published in a recent number of the *Presse Médicale*, the result of his researches on the prevalence of leprosy. One fact is of striking importance; no measures have been taken so far in the French possessions to stop the spread of this malady. In Saigon itself and the surrounding country there are about 3500 lepers, and one should also take into consideration the fact that a great number of nervous forms escape attention. Along the shores of the Annamite province there are several small centers of leprosy, and at Hanoi, the capital of Tonkin, there is an important settlement which is more or less included within the city. Further up the Red River, there are several villages where a few cases are to be found, but it is a well-recognized fact that the number of cases is in direct correlation with the density of the population. In Burmah there are quite a number of cases, and at Singapore it has been found necessary to establish a special colony for the victims of this disease. On the upper stretches of the river Mekong, the number of lepers is much smaller and they are strictly isolated from the rest of the population, being obliged to live on a raft or on sandbanks in the river. It is often found that the disease was unknown until the advent of a Chinaman, who has been the focus of an epidemic around his abode, infecting first of all his own family and then those who came into contact with the different members thereof.

### Treatment of Anorexia.

A new drug for anorexia has been recommended bq Prof. Albert Robin, of Paris, as well as previously by Drs. Nicolas and Garel, of Lyons. It has been called "persodin" and is formed of a mixture of persulphate of sodium and ammonium. This body, persulphate of sodium, is by itself unstable, but by combining it in a certain proportion with persulphate of ammonium, a compound body may be produced which will remain unaltered. This drug is a faily good antiseptic, as has been shown by Drs. Nicolas and Garel, and injected into the intravenous system of the guinea-pig or dog it produces death. As an agent for increasing the appetite, it has been found beneficial in the treatment of tuberculous patients, for anemia, hysteria and neurasthenia. The dose recommended is 5 to 20 cg. of the compound persulphates, making, therefore, in solution about 5 to 10 grains. This drug should be given in a small quantity of pure water about an hour or an hour and a half before the ingestion of any solid or liquid food.

### Depopulation of France.

The depopulation of France has drawn the attention of medical men, as to the cause and a remedy. In 1870 the population was increasing by 2.57 units per thousand in France, 7.16 in Austria, 7.26 in Italy, 10.33 in Germany and 12.18 in England. At present the gain is only 0.81 in France, 10.6 in Austria, 10.7 in Italy, 11.2 in England and Russia, and only 15.6 in Germany. This shows how rapidly France is being surpassed in population by other nations, and it is of importance to know what can be done to counteract this tendency. The increase in the number of births is one that is more a question of ethics, but as for the death-rate of infants, a book, recently published by Senator Strauss, called "Depopulation and Puericulture," tends to show what might be done in this line. Public opinion has not as yet been awakened to the importance of the principles of social hygiene, and a great deal has yet to be done in France as elsewhere.

### Administration of Phosphorus, Iodin and Turpentine.

Some experiments, made recently by Dr. Hulot, and Dr. Ramond, of Paris, would tend to show that phosphorus and iodin combined with turpentine, may be administered in large doses without causing symptoms of poisoning. It is a well-known fact that turpentine is an antidote to phosphorus. According to the researches of Jonas, Köhler, Rommelaëre, Moreau and Fort, there are two combinations formed: hypophospho-diterebenthic acid and hypophospho-monoterebenthic acid. To produce this body one should take 300 grams of essence of turpentine and add 5 grams of white phosphorus, cut up into small pieces. This mixture should be kept for twenty-four hours at an average temperature of 45 C. or during six days at the temperature of the laboratory. The product obtained contains about 6.5 per cent. of phosphorus and is found to be a sort of resin of a light amber color, transparent and presenting an agreeable odor. Two grams have been given to guinea-pigs, 4 to a rabbit and, on these animals being examined two or three weeks' later, no lesion was found. Two tuberculous patients were given pills containing from 0.75 to 1 gram of this product, which makes about 65 mg. of phosphorus, and no morbid reaction followed. The quantity of phosphorus in the urine of each patient increased to double the previous amount, and the general health of one of the patients seemed improved. When iodin is combined with turpentine, there is production of heat, so that this body should be added in small fractions to the turpentine. The result is a greenish-brown resin with an agreeable odor, insoluble in water, but soluble in alcohol, chloroform and ether. As much as two grams of iodin were given to some guinea-pigs without any noticeable result. Some patients were given daily a gram of iodin, without showing any symptoms of iodism. About 80 per cent. of the iodin was eliminated, and the therapeutic action seemed to be that of iodid of potassium, but more extensive researches are needed.

### Anniversary Celebration.

The Association of Internes and Former Internes of the hospitals of Paris will hold a celebration next year in honor of its foundation in 1802. At that period there were special physicians and surgeons for the hospitals, but there were no students attached in any special manner to each service. The position of interne has remained in many ways what it was in 1802, but the number has increased noticeably. There were thirteen named at first, but since then the number has increased so that now there are about 260 to 300. All the notable medical men in France, with but few exceptions, have been internes of the Paris hospitals, where they have worked four years before graduating.

## FOREIGN.

**The wine-growers** of France have bestowed a handsome medal on Dr. E. Mauriac, of Bordeaux, for his work entitled "The Defense of Wine and the Campaign against Alcoholism."

**Hypnotic Practice** has been forbidden, except by medical men and under special permission, by the Hungarian government, on account of the number of crimes attributed to hypnotic influence there.

**The newly-organized chairs** of gynecology and surgery of children, at Paris, have been bestowed on the agrégés, Professors Pozzi and Kirmisson. Bouilly and Segmond were competitors for the first chair and Brun and Broca for the second.

**Silver Jubilee Number.**—The *St. Petersburger Med. Wochenschrift* for March 19 is a large souvenir number. This journal has been an important means of communication between Russia and the outside world, as it is published in German.

**Campaign Against Tuberculosis.**—An international bureau for the campaign against tuberculosis has been organized at Berlin, the outcome of the executive committee of the Antituberculosis Congress, whose task was not completed with the Congress, but has continued to date and is now thus officially remodeled. The headquarters of the "Internationales Centralbureau für Tuberkulosebekaempfung" are at Wilhelmsplatz, 2, Berlin, W.

**Zinc Oxid in Painting.**—The painters' syndicate of Paris has been officially notified by the municipality that henceforth zinc oxid must be used instead of lead carbonate in painting, and that contracts must specify this fact. The regulation will be strictly enforced. The toxicity of lead carbonate has been fully established, as THE JOURNAL mentioned at the time of Laborde's recent communication on the subject to the Paris Académie de Médecine.

**Organotherapy in the Paris Hospitals.**—The authorities have consented to the demand of the hospital physicians to be supplied with organ extracts, etc., for organotherapy. They request the physicians to be moderate in the use of very expensive medicines of this kind and call for those only that are actually needed. They are enquiring which makes are desired, and whether it will not be possible for the central laboratory of pharmacy to supply them in time.

**Classical Training for Medicine.**—The German *Medicinische Gesselschaft*, the largest scientific association in Germany, has petitioned the government to require a classical training as heretofore, of applicants for a course of medicine. In four days seventy other medical societies officially signed the petition, and an effort is being made to induce the authorities to refrain from admitting graduates of the technical schools to the medical course without further preparation.

**Progress of the Plague.**—The last official plague returns—those for the week ending February 23—for all India, gave 6309 deaths, or 399 more than the previous week, 221 of this increase occurring in Bombay City, with a total of 1118 cases for that city for the week. Every portion of the city is reported affected. In Bengal, for the same period, the plague deaths numbered 4066, or an increase of 453 over the preceding

week. In Calcutta they numbered 287 as compared to 233 for the previous week. In Mysore State the deaths were only 527 or 91 less than the previous week. Vigilant steps have been taken for some time at Southampton, to detect plague on board vessels arriving from the Cape. A few days ago a transport reported a Lascar to be ill. He was removed to the hospital ship in the river and placed under observation. It now transpires that he is suffering from plague in a mild form. Every possible means is being taken to prevent the spread of the scourge. The transport in which he came home has been taken down the river, battened down, and thoroughly disinfected. Steps will be taken to insure the destruction of every rat in the ship. It is thought that the infection was conveyed by rats as the man was not ashore at Cape Town. The military authorities are co-operating with the port medical officer in adopting precautionary measures; a barracks has been set aside in a convenient locality for the reception of possible cases. Plague seems to be establishing itself in Cape Town. For the week ending March 16 there were 81 cases admitted to hospital, 29 deaths, 17 suspects and 402 "contacts." Inoculations against plague are being freely practiced. Some 2000 natives were inoculated on March 14. Owing to the increasing gravity of the epidemic the authorities contemplate confining the soldiers to barracks. The proportion of European cases is increasing. In one day there were 4 of these to 8 among colored persons.

## Association News.

**Preparations for the St. Paul Meeting.**—Those who desire to attend the meeting in St. Paul, need have no fear that the city will be overcrowded, or that there will not be sufficient good accommodations for all. The people of St. Paul are making extensive preparations to take care of the visitors, all will be provided for. A program of entertainment for the ladies is being arranged. St. Paul has quite a reputation as a convention city, and there is yet to be heard complaint of the management or lack of accommodation. St. Paul has a number of first-class hotels, several of which are situated in the business district, while others are on the hill in the residence portion of the city, and many of the citizens will be glad to open their houses to the city's guests. The women of St. Paul have already formed committees, made preliminary arrangements, and are preparing to help make this year's meeting of the AMERICAN MEDICAL ASSOCIATION a memorable one.

**A New York Special to St. Paul.**—Arrangements are being made for a special train from New York to the St. Paul Meeting, to leave New York City, Saturday, June 1. Parties who wish to use this train in making the journey will communicate with Dr. F. H. Wiggin, 55 W. Thirty-sixth street, New York City, for further information.

## Correspondence.

### La Grippe or Rabies.

ASHEVILLE, N. C., March 26, 1901.

*To the Editor:*—I have noticed in THE JOURNAL at different times, reports of rabies prevailing as an epidemic. It was reported as epidemic in Dawson during January, and as prevailing in Minnesota, at different points. During the past nine years I have had considerable clinical experience while watching the progress of a disease among the canines, which can be most easily mistaken for rabies. This affection prevailed here, and in other parts of the state, as an epidemic several times during the period above mentioned; besides, there have been many sporadic cases from time to time. I refer to la grippe in the dog. During one fall and winter I saw forty cases in our little city and suburbs. In a paper written for our local society, and published in the *Charlotte Medical Journal* (July, 1900), I attempted to give the results of my observations, in a comparative study of the disease in the human and canine subject. I feel that this is a matter of the gravest importance, that two forms of this disease are so like the two forms of rabies as to make it quite possible to confound them, at the cost of unnecessary alarm in the community where the disease prevails, and unnecessary suffering to the animals. Can it not be possible that where the clinical history and symptoms seem identical, that the same pathological changes may be found in the medulla? Or is it not possible that the micro-organism of la grippe may produce the same or similar changes? Two well-defined types of la grippe in the dog can not be distinguished from rabies unless the microscope can determine the difference. Two different causes may produce the same affect. Can not, therefore, two different micro-organisms produce the same pathologic changes? I believe that at Dawson and in other places they have been having an epidemic of la grippe among the dogs. Very respectfully,

A. M. BALLARD, M.D.

## Married.

N. MONROE DODSON, M.D., to Miss Agnes Bendick, both of Berlin, Wis., March 25.

CORA E. BROWN, M.D., Dawson Springs, Ky., to L. E. Lutz, at Paducah, Ky., March 20.

WILLIAM COMMODORE CAUBLE, M.D., Salem, Ind., to Miss Harriett Banks, of Hooker, Ind., March 31.

HOWARD R. WEIRICK, M.D., to Miss Dorothy Herrick Compton, St. Paul, Minn., at Duluth, Minn., March 21.

BYRON H. CAPLES, M.D., Waukesha, Wis., to Miss Grace H. Stelle, of Washington, D. C., at Milwaukee, March 23.

## Deaths and Obituaries.

**William Taliaferro Hord, M.D.,** medical director, U. S. navy, retired, a graduate of the University of Pennsylvania, Philadelphia, 1853, died at his home in Washington, D.C., from diabetic gangrene, April 1, aged 70. He was born in Kentucky and was appointed to the navy soon after his graduation. He served during the Crimean and Civil wars; became fleet surgeon in 1872 and was made medical inspector in 1879. He was three times a delegate from the navy to the AMERICAN MEDICAL ASSOCIATION, and was a vice-president of the International Medical Congress in 1887. He was retired in 1893.

**G. M. B. Maughs, M.D.,** Missouri Medical College, St. Louis, 1849, a pioneer practitioner of St. Louis, mayor of Kansas City in 1860, a surgeon and president of the Confederate Board of Examiners, a member of the St. Louis Medical Society for thirty years, and in 1879 president of the Missouri State Medical Society, died at a sanatorium in St. Louis, March 23, aged 80.

**John Henry Hobart Burge, M.D.,** New York University, 1848, died March 24, at his home in Brooklyn, N. Y., aged 77 years. Shortly after his graduation he established the first hospital in California, at San Francisco. This work completed, Dr. Burge returned to Brooklyn, where he practised for fifty years. He was a member of the AMERICAN MEDICAL ASSOCIATION.

**Stephen B. Bennett, M.D.,** Rush Medical College, Chicago, 1859, who had practiced in Fairview and Canton, Ill., for more than forty years, and was coroner of Fulton County in 1878, and an active promoter of the movement for a public hospital, died at his home in Canton, from pulmonary tuberculosis, March 1, aged 62.

**Charles N. Fowler, M.D.,** Western Reserve University, Cleveland, 1850, major and surgeon of volunteers in the Civil War and a prisoner in Libby prison, one of the most successful practitioners in Northeastern Ohio, died at his home in Youngstown, Ohio, March 19, aged 73.

**Ralph J. Hess, M.D.,** Cornell University, New York, 1900, died at North Brother Island, N. Y., March 24, from scarlet fever, aged 27. He was attached to the house staff of Bellevue Hospital and was removed to the Isolation Hospital from the Willard Parker Hospital.

Mary **S. West, M.D.,** Woman's Medical College of the New York infirmary, 1879, died suddenly from apoplexy, at her home in New York City, March 24, aged 61. She was born in England, and had practiced in New York for more than twenty years.

**S. R. McClanahan, M.D.,** University of Pennsylvania, Philadelphia, 1859, a prominent physician of Calpeper County, Va., and at one time a member of the state legislature, died at his home at Brandy Station, Va., March 19, from paralysis, aged 65.

**Augustus E. Hoeltge, M.D.,** Medical College of Ohio, Cincinnati, 1860, a member of the AMERICAN MEDICAL ASSOCIATION, a veteran of the Civil War, and a prominent physician of Cincinnati, died at his home in that city after a long illness, March 26.

**George M. Fisher, M.D.,** University of Maryland, Baltimore, 1862, who had practiced medicine at Denton, Md., for several years, died after a long illness at his home in that place, from lung disease, March 21, aged 67.

**John B. Busteed, M.D.,** College of Physicians and Surgeons, New York, 1892, died March 11, aged 31. He went to Corea as a medical missionary in 1893, but returned to Brooklyn, N. Y., in 1897, suffering from phthisis.

**James A. Roseberry, M.D.,** University of Cincinnati, 1882, who had practiced at Forrest for several years, died at his home in that place, from carcinoma of the intestines, after a long illness, March 24.

**Kelon H. Long, M.D.,** University of Louisville, 1893, a practitioner of Humboldt, Neb., who was forced to leave that place on account of his health a year ago, died at Jasper, Mo., March 23.

**Herbert K. Tefft, M.D.,** Bellevue Hospital Medical College, New York City, 1873, who had practiced for twenty-five years in Topeka, Kan., died at Los Angeles from Bright's disease, March 11.

**George W. C. Wren, M.D.,** the University and Bellevue Hospital Medical College, New York City, 1899, died March 23, at St. Vincent's Hospital, New York, from typhoid fever, aged 27.

**F. G. Mason, M.D.,** University of Nashville, Tenn., 1859, who had practiced for many years in Dyer County, died from paralysis at his home in Newbern, Tenn., March 19, aged 67.

**George W. Williams, M.D.,** Northwestern University Medical School, Chicago, 1873, died at the City Hospital, Aurora, Ill., from carcinoma of the stomach, March 23.

**Joseph H. Binney, M.D.,** Medical College of Indiana, Indianapolis, 1878, of Fullerton, Neb., died at his home in that place, March 26, after a prolonged illness, aged 54.

**A. G. Hollenbeck, M.D.,** University Medical College of Kansas City, 1894, division surgeon of the Memphis route, died at his home, Willow Springs, Mo., March 22.

**William J. Almon, M.D.,** University of Glasgow, Scotland, 1837, died recently at his home in Halifax, Nova Scotia, from the results of a fall. He was 82 years of age.

**Myron H. Parkhill, M.D.,** University of Buffalo, N. Y., 1886, coroner of Steuben County, died from pneumonia, at his home in Howard, N. Y., March 26, aged 35.

**Patrick A. Holohan, M.D.,** McGill University, Montreal, 1894, died from typhoid fever at his home in Great Barrington, Mass., March 19, aged 32.

**Matthew F. Ryan, M.D.,** Medical School of Maine, Brunswick, 1889, died March 18, at his home in Millinocket, Maine, after a lingering illness.

**Seth B. Singleton, M.D.,** Kentucky School of Medicine, Louisville, 1880, died March 17, at his home in Welsh, La., after a short illness.

**Francis M. Bledsoe, M.D.,** Jefferson Medical College, Philadelphia, 1859, died at his home in Georgetown, Ga., March 17, aged 70.

**William E. Scull,** University of the South, Sewanee, Tenn., died at the residence of his father in Lavernia, Texas, March 14.

**Jerome M. Payne, M.D.,** Kentucky School of Medicine, Louisville, 1881, died at his home in Bagley, Iowa, March 22, suddenly.

**James T. Halloway, M.D.,** University of Louisville, 1889, of Eupora, Miss., died at Mineral Wells, Texas, March 18, aged 41 years.

**A. T. Blackburn, M.D.,** Northwestern Medical School, Chicago, 1881, died at his home in Atkinson, Neb., March 18.

**Edward Clarence Frazer, M.D.,** University of Maryland, Baltimore, 1883, died in Philadelphia, March 19, aged 61.

**Leo Randall, M.D.,** New York University, 1890, died at his home in New York City, March 15, aged 37.

**Calvin M. Brewer, M.D.,** Baltimore Medical College, 1888, died suddenly at Clarkson, Texas, March 20.

**James O. Campbell, M.D.,** Denver Medical College, died at Winslow, Ari., March 20.

# Miscellany.

**New Theory in Regard to Antitoxins and Immunity.**—Apostolico suggests, in a communication to *Il Morgagni* (December, 1900), that the bacteria secrete the antitoxins themselves. He cites various established facts as arguments in favor of the theory that the bacteria secrete or generate both the toxins and antitoxins. At first the former predominate and the latter are in imperceptible quantities, but gradually the proportion is reversed and the antitoxins predominate as the bacteria become less and less virulent. He states that this production of antitoxin can be observed in cultures of certain molds.

**The Parasite of Cancer.**—Dr. Harvey R. Gaylord discussed the parasitic nature of cancer of variola before the professors, physicians and student body of the medical department of the University of Buffalo, N. Y., March 28. He referred to Busser who, in 1893, discovered a pathogenic organism belonging to the yeast family, and Cevellici, who isolated a yeast from the skin of a lemon and injected it into animals and to his surprise on examining specimens of the organs of the animal found that the yeast resembled the so-called organisms of cancer. The Doctor claims to have inoculated cancer into animals and to have transferred them from one animal to another. He said others have found organisms in cancer and explained them as protozoa. Sanvellin and all observers of alleged parasites in cancer have noted the great variability of these forms in the tissues. As a result of his preliminary work, he thinks he has discovered the reason for this, and said he owes to Busser the knowledge of the fact that all staining methods are unreliable for such a research. He therefore worked with the fresh methods, although at first it was very confusing. He has discovered in all the cases of cancer so far examined, that by fresh methods the organism can always be found. These bodies resemble fat in the fresh state. It was only when he applied the ether test and the osmic acid test that he discovered they were not particles of fat. He next found that he could crack their edges with a cover-glass and then learned that the same observation had been made by an observer in Christiania. There was no reason, however, to believe that these might not be unusual forms of fat, so he injected them into the abdominal cavities of animals, and most developed peritonitis, and large quantities of these bodies could be obtained from the peritoneal fluid. In the last few days he has observed the round form develop under the cover-glass. The bodies can be found in every cancer if properly sought for, and can be injected into animals and be recovered. They also change their form. San Felice succeeded in producing, by the inoculation of saccharomyces, local tumors followed by enlargement of lymph nodes. These lymph nodes were allowed to dry, and when pulverized and inoculated into successive animals, became more and more virulent, and finally produced death in two days. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues, although in slightly modified form. It had been changed into

something that was very like the Russel fuchsin bodies. Cultivation of every possible kind has been tried in the State Laboratory for the Investigation of Cancer. Altogether 1200 cultures were made in sixty different culture-media. The result has been most variable. Only once did they find a yeast in pure culture. Only once was inoculation performed successfully. Advantage has been taken of the technique of San Felice in his recent observations, and now they there use aseptic material from dried lymph nodes for one inoculation. The work has been done only within the last three months (March 3, 1901) yet three times death has occurred within three weeks after inoculation. In certain of the cases they have found Russel's bodies present in the nodules which occurred in abdominal carcinoma. An exploratory incision was made, and a quantity of the serum from the abdominal cavity was given him for investigation. It was in this fluid that he first found these bodies, and observed that they did not increase. After the fluid had been kept in the thermostat for three weeks, he could still find the same bodies. They were then injected into the jugular vein of a guinea-pig, and three weeks and a half afterward on killing the animal, he found a primary adenocarcinoma of the lung. This experience was unique. The fluid had been carefully sedimented and that for inoculation taken from the top, so that it is not at all probable that cancer cells were actually introduced into the animal. Reference was made to an address delivered before the New York Academy of Medicine in 1900, in which Dr. Gaylord stated that the most important work on the etiology of cancer in recent years had come from the Italian schools. Roncali, in studying certain appearances that were supposed to be coccidia, recognized that they were yeasts, also Russel's fuchsin bodies, the character of which was supposed to be yeast, and Plimmer, who in 1100 out of 1200 cases found atypical bodies, the Plimmer cells which were said to be the etiologic consequence of the inoculations. Dr. Gaylord referred to the work of L. Pfeiffer, not the bacteriologist, but the Vorstand of the Impfinstitut in Weimar and a biologist. He credited Pfeiffer for the observation that cancer is due to an animal organism, a protozoon, and also credited him with having described in detail a protozoon as a cause for variola and allied conditions—varioloid, varioline, vaccinia, horse-pox and cow-pox—besides attributing a parasitic nature to scarlet fever, measles, etc. Recently Munk has been able to obtain these bodies described by Pfeiffer from variola and vaccinia, and has studied them in a hanging drop bouillon culture. Dr. Gaylord found a resemblance between the organism of variola and that of cancer, and believes both to be protozoan. Lately, Isen, of San Francisco, has also seen these bodies in cancer. Sjöbring also contributed to the parasitic theory. He believes that these bodies, which can be obtained from scrapings of cancer, are best observed, unstained, and, being granular in appearance, have been regarded as fat. They have a vibratory circular motion, not ameboid, and go through cycles or stages of development. They have ameboid motion, and may possibly possess flagella. As to their multiplication, it is by sporation, but whether by a direct cell division Dr. Gaylord did not state.

**Where and How Shall the Medical Student Get Information Concerning Medical Ethics?**—*The Medical World* for April says: "With all the everlasting hue and cry about medical ethics, one can not but wonder that there is so much loyalty existing, if he but know even a little of the actual condition of affairs. The medical student enters the medical school 'fresh from college'; or fresh from the farm; or fresh from his preceptor's office. He has never heard a word of medical ethics, and when he first hears the term, if he has the timber of a good doctor in him, he looks wise and remains silent while inwardly cursing his abject ignorance. So soon as he may, he looks up the term in every lexicon, dictionary, book, and periodical to which he has access, with absolutely no results in so far as information goes. That is, the good student does; the coming ignoramus or quack has not the energy, brains, or enthusiasm to do such labor. The good student has learned enough to attract his attention, and has done his full duty when he has studied all available references; but the very familiarity with which the subject is treated by his professors impels him to conceal what he supposes is his supreme ignorance, and he is afraid to ask what this term means. Probably he does not again hear it in his entire curriculum, and graduates without knowledge of this important branch of medical education. All he learns thereafter will be over a very rocky path. He meets those as ignorant as himself; those who deliberately steal from him all his hard-won prestige; the foul and slimy back-biter; the quack, as well as some versed in ethical lore. What wonder that he blunders? Who is to blame? We recall the case of a young man who had graduated from one of our best colleges, with honors: he had served under a preceptor whose diploma was endorsed by the leading medical institution in the United States; he entered the curriculum of the said college and passed it with high grades, and some prizes; he was chairman of his class; yet until a few weeks before graduation he had never heard of 'medical ethics.' At once after hearing it he looked it up faithfully, and found nothing. He first heard it in a casual reference during a lecture on therapeutics in which the professor promised to devote *one hour* to a consideration of the subject of 'Medical Ethics.' The student, though he has practised for a number of years, is yet waiting to hear that lecture. After laborious search, he found where he could obtain a copy of the Code; when he perused it his horizon widened, and in the twilight he saw numerous shadows of failure, insult, misunderstanding, abuse and heart sickness and disgust, all of which hight have been avoided or thwarted had he but known. When he obtained the copy of the Code he was a member of his county, state and the AMERICAN MEDICAL ASSOCIATION, and had written articles attracting attention in more than one continent. It is very easy to blame *him* for his ignorance; but were it not better to arraign the professors who should have given him a glimpse of light? These were the actual conditions in one of the leading medical teaching institutions in the United States. What they may have been in the more modest institutions we cannot tell. We have assurance that they are no whit better to-day. It is certain that if the medical students are not taught the vital principles of medical justice and equity, they can not practice them. When they meet their peers in ignorance, some one is injured; and probably the most honest man. We enter an emphatic plea for the teaching of the fundamental principles of medical ethics in every medical school; we urge every national, state, and county medical society to furnish every new member with a copy of the Code; we suggest that every doctor who has never seen it write to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Chicago, Ill., for a copy. If the schools have no time to mention it, they might at least present each graduate with a copy." [Codes will be furnished by THE JOURNAL at 5 cents a copy, postpaid.—ED.]

## Societies.

Tennessee State Medical Society, Nashville, April 9-11, 1901.
Florida Medical Association, Jacksonville, April 10, 1901.
Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.
Medical Association of the State of Alabama, Selma, April 16, 1901.
Medical Society of the State of California, Sacramento, April 16-18, 1901.
South Carolina Medical Association, Florence, April 17, 1901.
Medical Association of Georgia, Augusta, April 17, 1901.
Louisiana State Medical Society, New Orleans, April 18-20, 1901.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.

**Baltimore County (Md.) Medical Association.**—At the meeting of this Association, at Arlington, March 21, resolutions in memory of the late George M. Bosley, Towson, were passed.

**Stark County (Ohio) Academy of Medicine.**—This organization, at its meeting in Canton, March 20, elected Dr. Robert A. Biechele, president; Dr. Esther A. Tyrrell, recording secretary and Dr. Frank E. Hart, corresponding secretary, all of Canton.

**Practitioners' Club, Louisville.**—At the annual meeting and banquet of this organization, held March 12, Dr. John J. Moren was elected president; Dr. Oscar E. Bloch, vice-president; Dr. William A. Keller, secretary, and Dr. James T. Windell, historian.

Sacramento (Cal.) **Society for Medical Improvement.**—The following officers have been elected by this Society, for the coming year: Dr. James A. McKee, president, and Dr. William H. Wentworth, secretary and treasurer.

Florida **Medical Association.**—The twenty-eighth annual meeting of this Association will be held in Jacksonville, April 10, under the presidency of Dr. William L. Hughlett, Cocoa. Dr. Jay H. Durkee, Jacksonville, is chairman of the committee of arrangements.

Paducah (**Ky.**) **Medical and Surgical Society.**—At the meeting March 20, a resolution was passed prohibiting any member of this Society from making a bid or contract to do the practice of any corporation, union, secret society or other organization.

**Ophthalmological and Otological Society of Washington, D. C.**—The thirty-sixth session of this Society was held on March 12, at the office of Dr. Henry A. Polkinhorn, who presented the paper of the evening on "The Use of Suprarenal Capsule in Ophthalmic Practice."

**Wayne County** (**Mich.**) **Medical Society.**—At the March 21 meeting of this Society at Detroit, its committee on medical legislation, composed of Drs. George A. Kirker, Leartus Connor and Robert H. Honner, all of Detroit, was instructed to go to Lansing, March 26, to oppose any amendment to the existing medical laws of the state.

**Tuberculosis Congress.**—The meeting of this Congress will take place in London, July 22. The work of the session will be divided into four sections, which will consider various phases of the subject; namely, state and municipal; medical, including climatology and sanatoria, pathological including bacteriology, and veterinary.

**Jefferson County** (**Ala.**) **Medical Society.**—A special meeting of this Society was called on March 25 to pay due respect to the late Dr. George C. Chapman, Birmingham, who had served for several years as its secretary. Committees were appointed to escort the remains to the train, to provide a suitable floral tribute and to draft appropriate resolutions.

**Cass County** (**N. D.**) **Medical Association.**—The first annual meeting of this Association was held at Fargo, March 25, and the following officers were elected: Dr. Edward M. Darrow, Fargo, president; Drs. Paul R. Sorkness, Fargo, Henry H. Critchfield, Hunter, E. C. Brauch, Jamestown, and George A. Carpenter, Fargo, vice-presidents; Dr. Cyrus N. Callender, Fargo, secretary and Dr. Edward B. Evans, Fargo, treasurer.

**Health Officers' Association of Texas.**—The health officers of the state met at Houston, March 21, and perfected a permanent organization. State, county and city health officers, mayors of incorporated cities and towns, sanitary officers of cities, and the governor are eligible to membership. Dr. James B. Massie, Houston, was elected president; Dr. Isaac J. Jones, Austin, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

**Saratoga County Medical Association.**—This Association held a meeting for the perfection of its organization, March 14, and elected the following officers: Dr. Frank J. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga, vice-president; Dr. John F. Humphrey, Saratoga, secretary, and Dr. William E. Swan, Saratoga, treasurer. Delegates to the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION were also elected.

**American Surgical Association.**—The provisional program for the 1901 meeting of this body, which occurs May 7, 8 and 9, at Baltimore, under the presidency of Dr. Roswell Park, Buffalo, announces "Some Phases of the Cancer Question" as the subject of the president's address, and "Examination of the Blood in Relation to Surgery," as the chief subject for general discussion. Mr. A. W. Mayo Robson, F.R.C.S., of Leeds, England, will be present and read papers on "Pancreatitis," and "Treatment of Chronic Ulcer of the Stomach."

**Orleans Parish** (**La.**) **Medical Society.**—At the meeting of this Society, March 23, Dr. Edmond M. Dupaguier read a paper on "Lung Infarcts in the Pneumonia of Cardiapathy"; Dr. Louis G. Le Beuf reported a case of gangrenous infection of the ischio-rectal region, with dissection and isolation of nearly four inches of the rectal tube, terminating in recovery; and Dr. Thomas S. Dabney related a case of acute alcoholism in which 1/16 gr. of apomorphin hydrochlorate given hypodermically had produced prompt emesis, followed by profound and refreshing sleep. A marked distaste for alcoholics was observed on the following day.

## MEDICAL SOCIETY OF THE MISSOURI VALLEY.

*Thirteenth Semi-Annual Meeting, held in Omaha, March 21.*

### Pelvic and Hepatic Disease.

DR. INEZ C. PHILBRICK, Lincoln, Neb., read a paper entitled "Association, in Women, of Pelvic and Hepatic Disease." Her experience has impressed him with the constant presence of a hepatic factor in cases of chronic pelvic disease. He said the question constantly arises as to whether hepatic congestion, biliary catarrh, autointoxication and cholelithiasis bear the relation of effect to cause of pelvic disease. What, save an understanding of the physiologic factors involved, can render intelligible that symptom-complex, retroverted uterus, irritable bladder, constipation, hemorrhoids, gastric catarrh, cholelithiasis and neurasthenia? All investigators agree that sedentary habit, tight lacing, faulty posture and pregnancy are predisposing factors to cholelithiasis. They do not emphasize chronic pelvic disease as an etiologic factor. Sex is a factor. Different observers estimate that about 80 to 85 per cent. of gall-stone cases are found in women. Sedentary habit and an irrational dress, its constricting bands, its heavy skirts, its corset, capable of amputating a portion of the liver, favor and induce flexions of the uterus. These directly affect the portal circulation. Recurrent menstrual congestion and the more prolonged pelvic engorgement due to frequent pregnancies become permanent factors in causing chronic pelvic disease. Retroversion almost certainly causes constipation, interferes with hepatic circulation and impedes liver function. Autointoxication, neurasthenia and general vascular relaxation, including the portal circulation, follow. Pregnancy has been assigned as the cause of cholelithiasis, but wrongly; pregnancy has been the cause of chronic pelvic disease and it has been the cause of the cholelithiasis. In every one of her patients with prolonged pelvic disease, hepatic congestion and torpor has been present.

### Methyl Alcohol Amblyopia.

DR. HAROLD GIFFORD reported another case of this condition, in W. B. S., aged 35, brought to him November 28 last, with a history of slight failing for two days prior, and total blindness present for several hours. Otherwise the man was in apparent perfect health. The right eye was absolutely normal, objectively, except for a dilated pupil which gave no sign of contraction on light stimulus. The left had a shrunken cataract and had been entirely blind for years. The patient could think of nothing to account for his blindness except malaise for a few days. The case seemed to be one of idiopathic retrobulbar neuritis. The Doctor gave a not altogether hopeless prognosis and ordered pilocarpin sweats and large doses of the iodids. Vision slowly and steadily increased and in two months was nearly 20/20. Meanwhile the optic disc had become distinctly atrophic and the retinal vessels were bordered by well-marked connective tissue sheaths. The manner of the return of sight during the first two weeks suggested methyl alcohol, but the patient was sure he had never used any, though he recalled drinking some cologne spirits just before his sight began to fail. A sample from the same jug proved it to be nearly pure methyl alcohol flavor. Thus was the causation proved.

### Clean Surgery in Obstetrics.

DR. J. E. SUMMERS, JR., read a paper on "Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced upon the Viable Unborn Infant." During his student days, in England and America, embryotomy was the operation of choice when forceps or version failed. Cesarean section was only allowable when the deformity did not admit of embryotomy. On the Continent, because of religious belief, Cesarean section always had the preference over craniotomy on the living child. The steadfastness of the teachings of the Roman Catholic church has forced the application of the principles of modern surgery into the obstetric art so that the killing of the unborn, viable child is becoming recognized as ethically and scientifically reprehensible. The induction of premature labor, in well-selected cases, is conservative in that it saves nearly all the mothers and about 60 per cent. of the children. Cesarean section in such cases would save both mother and child. Por-

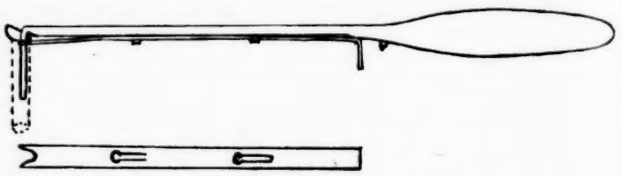
ro's operation and Cesarean section have reached a position so high that, in nonseptic cases, the maternal mortality should be practically zero and the infant mortality of necessity zero. In septic cases, the maternal mortality reaches 33 per cent. and the infant often succumbs. Improved technic has so broadened the field for successful operations by Cesarean section that it is called for when the true conjugate measures as much as 2.8 or even 3 inches. Reynolds, of Boston, who has had nineteen consecutive cases, says Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term whenever an intrapelvic delivery will be fatal to the child, and may often be preferred to the induction of premature labor. Leopold, Zweifel and Gustav Braun together have done 222 Cesarean operations with a gross mortality of 7.2 per cent. The nonseptic cases gave a mortality below 4 per cent.

### Diseases of Accessory Sinuses of Nose.

DR. D. C. BRYANT, Omaha, Neb., presented a paper on "The Pathological Importance of Diseases of the Accessory Sinuses of the Nose." He thinks the general practitioner does not attach sufficient importance to the seriousness of the conditions which may occur in these sinuses. This is shown by the disastrous results seen in overlooked and neglected cases. Inflammatory forms are most common. The suppurative is the all-important one. We are all familiar with the havoc produced by a suppurative inflammation in the middle ear or the mastoid cells. Every one understands that such a destructive process must soon be checked or there will follow destruction of the sound-conducting-apparatus, or thrombosis of some of the venous channels and septic infection of the meninges of the brain. Every physician knows that many of these cases end in death, and yet few seem to realize that the same result can follow suppurative inflammation of the accessory sinuses of the nose. This failure on the part of the general practitioner was brought very forcible to his mind while seeing post-mortem examinations in Vienna. He saw two cases of suppurative meningitis following sphenoidal and ethmoidal disease unsuspected prior to post-mortem. Of the five sinuses, three have their natural openings near a common point in the nasal cavity, viz., the antrum of Highmore, the frontal sinus and the anterior ethmoid cells. The sphenoidal sinus and the posterior ethmoid cells have a nearly common point of outlet. This nearness of outlets makes it a very easy matter for the infection to travel from one sinus to another. The fact that there is often no pain at the seat of the disease, or even such pain as is present is located remotely, is very misleading. The discharge of pus is so scanty as to be easily overlooked by both patient and physician. When the smallest quantity of pus is found in the middle meatus, one can suspect disease of the antrum, frontal sinus or anterior ethmoid cells, when it is found in the superior meatus, or running down over the middle turbinate, one can suspect suppuration in the sphenoid, or the posterior ethmoid cells. The solid probe, the hollow probe, and the trocar and canula will be found of untold service. The only certain method of finding whether the suspected pus comes from the antrum of Highmore is to make an exploratory puncture preferably through the wall of the inferior meatus, and to wash out the cavity with warm saline solution. The frontal sinus, the ethmoid cells, and the sphenoid can be entered through their natural outlet, with a solid, and then with the hollow probe, irrigated with saline solution.

### Intubation Instrument.

DR. F. W. DEAN, Council Bluffs, Iowa, presented this, saying that while there are already on the market several admirable instruments for intubating the larynx, he has been unable to find one that will not fail in occasional cases. "When the tube is on the O'Dwyer, Waxham or Frank introducers ready for introduction, the instrument adds from one-quarter to three-eighths of an inch to the length of the tube. Dr. F. E. Sampson has made an introducer which obviates this difficulty though its mechanism is rather complicated for an ideal instrument. An introducer that I have devised not only corrects the fault but is exceedingly simple in its construction. It is durable and easily cleaned. It consists of two parts which for convenience in describing I will term the stationary and sliding parts. The stationary part is a steel bar having about an inch and a quarter of one end rounded and reduced in size so that it will enter the smallest tube. One inch of the rounded portion is bent downward at a right angle to the bar. At the other end of the bar is the handle of the instrument. The lower surface of the bar is flat and merges into the handle at a short incline of about 8 degrees. There is a stop-pin upon the incline and a couple of headed rivets are fixed in the lower flat surface upon which the sliding part plays. The sliding part of the instrument is a strip of spring steel which slides on the under flat surface of the stationary part by means of two slots playing on the rivets. In its distal end is a V-shaped notch which fits under the enlarged end of the tube, holding



it firmly on the instrument. One-half inch of its proximal end is bent downward at a right angle to be used as a trigger. This trigger end rests upon the short incline of the stationary part giving a frictional contact which prevents its sliding too easily. The distal ends of the slots are enlarged, enabling the two parts to be easily separated by raising the trigger end over the stop-pin."

### Facial Paralysis.

DR. J. M. AIKEN, Omaha, in a paper on this subject, made a strong plea for more attention on the part of the general practitioner to cases of facial paralysis. He urged a thorough study of the anatomy, thus enabling the physician to locate more definitely the real seat of origin and adapt the treatment to the conditions discovered.

### Plastic Operation for Pruritis Ani.

DR. H. T. HAMILTON, Omaha, described the plastic operation he has devised for the relief of this condition. He dissects out enough tissue to remove the terminal filaments affected. He secured very satisfactory results in the cases referred to in his paper.

### Ante-Partum Diagnosis.

DR. A. B. SUMMERS, Omaha, presented a paper on this subject emphasizing the necessity of great care in the examination of women during attendance in labor. Examination should be made as early as possible, such as measuring the pelvis if it seems necessary, examination of the urine as to the presence of albumin, and the quantity of urea excreted. The question of the advisability of inducing premature labor should also be kept in mind, and that of performing Cesarean section in case of deformed pelvis or placenta previa.

Other papers were read on the following subjects: "Chorea," Dr. E. A. King, Blockton, Iowa; "Primary Perineorrhaphy," Dr. C. H. Wallace, St. Joseph, Mo.; "Treatment of Tuberculosis," Dr. J. W. Kime, Ft. Dodge, Iowa; "Compensation and Failure of Compensation in Heart Disease," Dr. Millard Langfeld, Omaha; "Chalazial Tumors," Dr. M. F. Weymann, St. Joseph, Mo.

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## NEW YORK ACADEMY OF MEDICINE.

*Meeting of the Section of Otology, held March 13.*

Dr. James F. McKernon in the chair.

### Akouphone and Akoulalion.

MR. J. R. HUTCHINSON, on invitation, presented the above subject and said that in treating of deafness from the standpoint of a mechanic and engineer, he considers the ear merely as a piece of machinery, subdivided into its integral parts, which individually perform certain functions when acting in normal healthful conditions. For several centuries the attention of scientists has been turned toward the partial relief of deafness by the substitution of mechanical contrivances to perform the functions of the mechanical parts which have deteriorated, and he referred to early attempts in this line.

The speaker's estimate of the deaf people he has tested within the past four years, places those utterly unable to hear sounds by means of his strongest electrical apparatus at 5 per cent.; 20 per cent. of the deaf are not handled to a practical extent by these instruments. They may be able to hear sound, but the inability to distinguish between sounds is lacking and they seem beyond hope. The remaining 80 per cent., if handled in a practical manner, can be reached successfully. In speaking of these 80 per cent., he divided them into three classes: those who are totally deaf, or deaf-mutes; persons extremely hard of hearing; those slightly hard of hearing. To the first class belongs congenital deaf mutes, and also persons who are considered totally deaf but who could once hear. With the former, although they hear the sound of words, having never before experienced this sensation, they are not able to understand what sound is, and it is a very laborious task at first to get them to distinguish between sounds. Also the lack of desire on their part to hear is to be contended with, as, never having heard, they naturally do not appreciate what they are missing. This is possibly the hardest class to handle, and it is very rare that anything is ever done after they have reached maturity; for, having no time to devote to learning the meaning of all the different sounds, they naturally are reticent about undertaking a task that they consider of so great a magnitude. Children's minds, however, are in a receptive state, a course of instruction in the regular curriculum of our schools, which would enable a competent instructor to teach the children the meaning of sound, the difference between sounds, the sound of words connected with their meaning, would naturally cultivate a normal tone and perfect articulation, the children being able to hear their own voices in repetition after the teacher.

He considers it marvelous that so much had been and is being accomplished in this direction when it is considered that the pupil neither can hear the sound which he or she is trying to imitate, nor hear the sound of the voice in repetition. Although a deaf-mute has been thoroughly educated in lip-reading, and can speak himself, when he hears words spoken to him, he does not know what they mean. An analogous case would be that of a person who had always been blind. He knows a table, a book, or a chair, by the sense of touch, but if such a person should suddenly receive his sight, he would become totally confused, and it would take a long time and much effort on his part to learn to correlate the image of the thing with the name of that object and have a thorough understanding of these two. Also, if a person has been totally deaf for quite a length of time, not having heard the sound of articulate speech for so long a time, he naturally forgets what words sound like, and, although he has more of a foundation to build on than those of the congenital deaf-mute, still it is a matter of practice before he becomes familiar again with sound, even when presented with such tremendous magnification and precise articulation as is accomplished by the akouphone or the akoulalion. He knows a number of instances in which persons had been "totally deaf" for a number of years and had forgotten how to understand speech, yet, by means of these instruments, again became familiar with words by practicing talking to themselves. In fact this is the quickest and most satisfactory way of reaching such a case.

To the first class belong the akoulalion, the name being derived from the two Greek words akouo, I hear, and lalo, I speak, which is intended to convey the idea that by hearing they are taught to speak correctly. This instrument consists of two instruments known as the pupil's stand and the teacher's stand respectively.

The pupil's stand is provided with two ear-pieces which are mounted on an electric spring that clamps the ear-pieces against the ears. On each of these ear-pieces is mounted a pneumatic cushion, which may be removed if desired, to correspond with the nature of the deafness as explained later. On this base is likewise mounted three vertical rods upon which slides a small hard-rubber carriage having mounted upon it the receiving instrument into which the pupil speaks when he wishes to hear his own voice. Connected to the pupil's stand is the teacher's outfit, which likewise has a round base, having mounted upon it a somewhat similar set of vertical rods having a small carriage supporting a similar receiving instrument. The height of the receiving instrument in both cases may be adjusted to conform to the height of the pupil or teacher when using the instrument. To the teacher's outfit is attached a wire leading to the electric battery, which can be situated any where in close proximity to the instrument. The pupil's stand is likewise connected to the teacher's stand, by a three-conductor flexible cord. The phonograph attachment is also attached to the teacher's stand. This latter attachment can be adjusted to any phonograph, gramophone, or other talking instrument.

It is almost universally the case that one ear has slightly more hearing than the other, and for this reason it is necessary not only to adjust the amount of sound going to or being received by the ears of the deaf-mutes, but also to regulate the intensity of the sound delivered to each individual ear. This is a vitally important thing, and alone places the akoulalion far ahead of similar devices. By alternating instruction by simple, rhythmic music, an appreciation of music is cultivated along with that for articulate speech. The question naturally arises, what will be the eventual outcome of the course of instruction with the akoulalion? A person can not use so large an instrument in the transaction of every-day affairs, and naturally must be able to use a smaller instrument, which can be carried around with him? In answer to this, the speaker said that the akouphone, or small portable instrument, can be made just as powerful as the akoulalion, but the latter possesses many advantages in there being a tremendous increase in the articulation of the word and the application of the sound to both ears at once, and the ability of the pupil to hear and speak the words in immediate repetition after the teacher. So, having learned the meaning of the sounds, such a person can provide himself with a small portable akouphone, by means of which he can carry on an ordinary every-day intercourse. It is likewise a fact that the continued use of the akoulalion has improved the hearing of quite a large per cent. of the deaf. It is but natural to suppose that a function which is inactive, when exercised, will naturally have a tendency to awaken and perform its natural function more effectually, provided there is not some destruction of the nerve itself. He has known of many instances of persons being able to hear perfectly with the akouphone or the akoulalion who had no appreciation whatever of sounds by the ordinary tuning-fork, or the shrill Galton whistle. Likewise persons who by the tuning-fork tests have an appreciation of certain notes and a lack of appreciation for the lower or higher ones, hear all notes alike with the akoulalion.

The akoulalion is at its maximum efficiency when in the hands of competent instructors of the deaf, but the akoulalion can be used in the private home for the instruction of children during vacation, on lines mapped out by competent teachers.

Considering those extremely hard of hearing, he said that one who has been very deaf for some time has forgotten how to eliminate the sounds he does not wish to hear. For instance, when using the akouphone, which magnifies the sounds tremendously, if three or four people are talking in close proximity to the one who is addressing the deaf person, the latter hears a general confusion of sounds, and he is unable to eliminate the sound of the other persons and to concentrate his attention on what the party who is speaking to him says. For this class, the type C instrument is designed, and enables the person who is deaf to hear only that which the person he is addressing says. It is also possible for each of two or more persons to have a receiving instrument into which each member of the company speaks, and the deaf person can not only hear what each says to him, but can likewise hear the remarks of one of the persons to the other. The instrument gives a perfectly clear enunciation. The little receiving instruments are made of aluminum, are always clean and sanitary, and do not contain obnoxious odors. Furthermore, the lower a person speaks, the louder the akouphone delivers the sound to the deaf person. If the receiving instrument is shouted into, the excess of sound is entirely cut off, so that the deaf person is not inconvenienced in the least by having to ask the person to speak in a lower tone of voice, and no detrimental effect is possible

to the ear. There is a little black flexible cord running to each one of the receiving instruments. The deaf person has a small ear-piece about the size of a watch, which is either held to the ear in the palm of the hand, mounted upon a handle, or by a head-band which holds it in place. The ear-piece can be regulated to suit the case of deafness and intensity of sound, and is as necessary as it is to focus a field or opera-glass to correspond to the eyesight and distance of the object. A small, dry, pocket storage battery supplies the necessary electricity to operate the instrument, and this can be readily recharged by the aid of the outfit furnished, without inconvenience or knowledge of electricity on the part of the user.

After the deaf person has been using this style of instrument for some time, a normal condition is developed in that the hearing is accustomed to receiving sound applied to the outside. The use of any aural instrument, which protrudes into the ear, is not only a menace to the healthy condition of the ear, but likewise cultivates what might be termed "near-of-hearing." The same as would be the case if a person would habituate himself to holding a book two or three inches from the eye when reading. He would become near-sighted. So the ear, having the sounds projected upon the auditory apparatus by a tube extending into the ear, becomes so accustomed to hearing sound delivered in this manner that it is in many cases difficult to understand at first with the akouphone. The ear has to again become accustomed to hearing sound applied to the outside. In many cases this is the ultimate point that can be reached, but there is a tendency in many more cases for the hearing to be gradually developed to the extent of the patient being able to use an instrument which picks up surrounding sounds within a reasonable range, and transmits them to the ear of the person. Then again, the person has to learn to eliminate not only the echo in the room or hall, or bad acoustic properties, but also the sound of voices he does not wish to hear, in other words, turn the sound into an intelligent state of affairs. An analogous case is that of a telegraph operator, who is able to stand anywhere within hearing distance of a telegraph instrument, and in spite of the loud ticking of the instruments even closer to him than that which he wishes to read, is able to eliminate the sound of those other instruments and hear only what the instrument he is listening to says. But, if he leaves the telegraph office for a number of years and returns again, he is not able to do this at first. Not only that, but he is unable to follow any one instrument perfectly, for the reason that he has forgotten how to concentrate his attention on any one particular instrument. But after he has been in that office for some weeks, he can again accomplish the same results with ease as before. So it is with a deaf person. The akouphone and akoulalion are not practical for children under 7 years of age, persons having paralyzed nerves, persons of hysteric temperament, and people of extreme age.

Briefly stated, the akouphone is a portable instrument which a large per cent. of the deaf can carry around with them, hearing ordinary conversation, the theater or opera, etc., and again enjoying those blessings from which they have been ostracized. This is not accomplished immediately, but the continued use of the instrument will tend to this. There is an instrument to be used exclusively for the desk of the business man, in which his batteries are being charged when he is not using the instrument; for the dining-room table, so that the host can sit and listen to the general conversation going on around the table; for the library for similar use; and for the opera, theater or church there is the "opera-outfit." In fact, it supplies any demand which can be made upon an instrument for the deaf.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting held March 21.*

### Modern Treatment of Gonorrhea and Its Complications and Sequelae.

DR. GEORGE K. SWINBURNE discussed acute gonorrhea. He insisted that the diagnosis should be confirmed by microscopic examination of the pus, and that the microscope should be used as a guide to the treatment of the different stages. In searching for gonococci it should be remembered that a single injection of protargol will sometimes cause their disappearance for twenty-four hours. He is one of those who believe in the early use of urethral irrigations of a 1 to 4000 solution of permanganate of potassium at a temperature of 105 to 120 F. For the first few days the injections should be given twice daily; then once a day, and the interval gradually lengthened. The solutions should not be irritating. Ordinarily a .5 to 2 per cent. solution of protargol would be appropriate after the first few days of the disease. At the end of five weeks of such systematic and efficient treatment a test of the efficacy of the therapeutic measures adopted should be made by instructing the patient to drink beer freely for several days to see if it causes a return of the urethral discharge. As soon as the posterior urethra becomes involved, it should receive local treatment, sometimes by careful irrigation from the meatus, sometimes by deep instillations of protargol solution.

DR. JOHN VAN DER POEL, speaking of chronic gonorrhea, said that the ordinary urethral syringe is not usually sufficient; he prefers the fountain syringe. For an anterior urethritis, he uses a .5 to 1.5 per cent. solution of protargol, and for posterior urethritis a strength of .5 to 1 per cent. The strength should be gradually diminished and the interval of treatment lengthened. After all micro-organisms have disappeared, weak solutions of the acetate or sulphate of zinc or of the acetate of lead are beneficial. At times it is necessary to treat certain areas of the mucous membrane of the urethra, and for this purpose a few minims of a solution of nitrate of silver, .5 to 5 per cent. in strength, should be applied to the part, through the endoscope. A sudden increase of the discharge containing gonococci is usually indicative of a new focus having been broken open. It is a good general rule not to use dilating sounds until all micro-organisms have disappeared.

DR. J. PEDERSEN spoke of some of the complications of posterior urethritis. It should be the aim of all treatment to prevent, as far as possible, hyperemia of the genitals, and to do this the patient should rest as much as possible, preferably in the recumbent position; the diet should consist largely of milk, tobacco and alcohol being excluded, and an effort should be made to keep the urine sweet by the internal use of appropriate antiseptics. One of the best of these is salol in full doses. For the more severe cases of urethrocystitis, a dram or two of a solution of nitrate of silver, .5 to 1 gr. to the ounce, should be instilled through a catheter. Irrigation from the meatus in these cases is ordinarily too irritating, and dangerous because of the liability of forcing some of the fluid into the ureters. In the early stages of an acute general gonorrheal cystitis, forcible irrigation of the bladder is to be condemned. When the spermatic cord becomes involved during the course of a gonorrhea, direct treatment of the urethra should be stopped, the patient be kept in bed, and an ice-bag or an evaporating lotion applied to the part. If these measures are promptly taken and efficiently carried out, epididymitis may be averted. Where the latter complication occurs an icebag may be of service in the first twenty-four hours. Later on mercury and iodid of mercury should be used. A suspensory bandage is not sufficient, but the testicles should be well supported over the pubes, by a sling attached to a belt around the waist. Gonorrheal rheumatism is apt to occur at any stage. Immobilization, counter-irritation and cold are the measures to be used locally at first; subsequently, poultices, compression, massage and passive motion may find a place. The treatment of the urethritis should be active though conservative.

DR. W. A. HOLDEN considered gonorrheal conjunctivitis. He said that at the very onset a single application of a 2 per cent. solution of nitrate of silver or of a 50 per cent. solution of protargol may abort the attack. The constant application of ice-cloths and the frequent washing out of the affected eye with boric acid in saturated solution are most essential. The cornea should be inspected at least once daily, and hot applications substituted for the cold ones on the first sign of haziness of the cornea. Protargol or nitrate of silver solution should be applied to the everted lids.

DR. J. R. HAYDEN spoke of gonorrheal stricture of the urethra. He favors the use, in most cases, of appropriate irri-

gations and of gradual dilatation, up to No. 18, with bougies and above that size with the ordinary steel sounds. When this treatment fails, internal urethrotomy should be done, care being taken to hold the urethrotome exactly in the median line and to keep the urethra on the stretch. A caliber of 25 or 30 should be secured. On the first signs of urethral fever, all the urine should be drawn with sterile catheters and the urethra irrigated with antiseptic solutions, while antiseptics are given internally. For tough strictures of the deep urethra, external urethrotomy is indicated. The method known as rapid dilatation is never free from risk; that of continuous dilatation is proper in a few selected cases; electrolysis is only of service in a few soft strictures, and was mentioned only to be condemned.

DR. ROBERT W. TAYLOR said he could not see the necessity for aborting gonorrhea, nor is he in favor of very active treatment in the early stages. Soaking the penis in hot boric acid solution, and making use of measures calculated to render the urine and the food unirritating are all that is required until the inflammatory symptoms have subsided, when injections of warm lead water are of service, as were also antiblenorrhagics given by the mouth. He prefers nitrate of silver to protargol, and would begin with irrigations of a strength of 1 to 32,000, gradually increasing the strength until, after five or six weeks, instillations of a 1 to 500 solution of nitrate of silver may be employed. In the long-standing cases, solutions of acetate of lead and of sulphate of zinc or copper are beneficial.

DR. B. LAPOWSKI said that the physician should endeavor to locate the gonococci in the urethra, and treat those portions. He asserted that the microscope could not always demonstrate by the Gram stain the presence of gonococci, and in order to determine absolutely whether or not it is possible for a person to marry, a culture must be made with the discharge.

DR. RAMON GUITÉRAS said that at times the lighting up of an old urethritis, by the breaking open of latent foci, will explain certain cases where the patient is positive that there has been no new exposure. He is thoroughly in favor of the permanganate irrigations, but insisted that the hydrostatic pressure should be most carefully regulated, and that the patient should be taught how to relax the compressor muscle at the right moment. While he feels positive that, since the treatment of gonorrhea by permanganate of potassium irrigations came into vogue, fewer cases of urethral stricture are seen, he admits that seminal vesiculitis is more common.

DR. CHARLES CHETWOOD objected to the use of forced irrigation without a catheter in cases of acute urethritis. For the first six days of the disease only the anterior urethra should be treated; after that it is well to include the posterior urethra, as a prophylactic measure, even though this portion gives no distinct evidence of involvement.

DR. BISCHOFF, speaking of the prophylaxis of gonorrhea, said that he thought prostitution could be regulated to an appreciable degree if the work were placed in the hands of our sanitary authorities rather than with the police. He detailed certain recent experiments to show that it is possible to abort a considerable proportion of cases of gonorrhea.

DR. HILL praised picric acid as an agent for the treatment of chronic gonorrhea when the mucoid stage is present. It should be used in a 1 to 100 or 1 to 2000 solution, about sixty minims being employed for each instillation.

DR. FERD C. VALENTINE expressed his belief that there are different forms of the gonococci, and that each vaunted remedy is most efficient in combating the inroads of one of these special forms.

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## DENVER AND ARAPAHOE MEDICAL SOCIETY.

*Meeting held March 2.*

President Dr. H. G. Wetherill in the chair.

### The Present Status of the Bottini Operation in the Treatment of Prostatic Hypertrophy.

DR. LEONARD FREEMAN read a paper on the above title, and said in part: No drug, serum nor glandular extract has yet been discovered which has decided curative properties. In estimating the practical value of the various operations, the following points are to be considered: 1, the percentage of recoveries; 2, the amount of danger; 3, the inconvenience and danger entailed; 4, will the operation be accepted by old men who are naturally timid in regard to surgical operations? Prostatectomy inspires dread and is attended by risk; castration is falling into disuse, and its mortality is high—16 per cent. in 152 cases. Vasectomy does not insure relief. Canalization of the gland, ligature of the internal iliac arteries, electrolysis, puncture with the electric cautery through the rectum, etc., are not sufficiently safe or reliable. The Bottini operation consists in burning through the prostate gland, one or more furrows, by means of a concealed knife, heated to white heat by electricity. The bladder is kept out of the way by dilating it with air. The following are the advantages claimed by the author for the operation: the large percentage of recoveries—85 per cent; the mortality being lowered 5 per cent; suffering and inconvenience slight. He observed that drinking of large quantities of water and copious injections before and after the operation contribute much to the safety and comfort of the patient. The operation is done in a few minutes; the pain is seldom great, and always bearable. The patient is permitted to leave his bed in a day or two. The patients, as a rule, do not object to the operation. There is no loss of blood, no open wound, no anesthetic is used, and in case of failure the first time the operation can be repeated with every prospect of ultimate success. His operations numbered 15, performed upon 12 patients, and 2 operations performed respectively by Drs. Williams and Warren. Six were absolutely cured, 1 died of pneumonia, 1 was a complete failure, and 1 a relapse. In 3 cases a second operation was successfully made. Experience, familiarity with the region involved and attention to details are essential to success. His later cases have been more successful than the earlier. He believes that in a majority a maximum of good can be done by its aid, with a minimum of risk, and that its shortcomings are more than counterbalanced by the advantages.

DR. HOBART WARREN gave a brief outline of the anatomy of the prostatic region illustrated by diagrams. He thinks that by the Bottini operation the prostatic plexus of veins is avoided, and thereby the risk of embolism is diminished. He does not think the patient should be allowed to go around in a day or two. A too deep cut may be avoided by careful measurement.

DR. JOHN S. MILLER said the flow of blood along the groove of the instrument is considered by many operators to be a reliable sign that the cautery blade has cut deeply into the prostatic structure. The bleeding will not be so severe if the cutting is done slowly and the blade is not too hot. Unless the beak of the instrument is held firmly against the lobe to be incised, the blade simply makes a shallow cautery line, while the beak of the instrument instead of being stationary, pushes backward and at the same time makes a false registry upon the gauge; it is very clear why such an operation should be attended by failure.

DR. W. P. MUNN has never had an occasion when the Bottini operation had to be resorted to. He does not think it should supplant the older operation. He admits that the Bottini may have its definite field, but he is not prepared to say what it should be. He thinks prostatectomy is just as free from danger. He considers the Bottini operation as cutting in the dark—one can neither see nor feel what he is doing. He ascribes the greater number of recoveries to the use of recent urinary antiseptics, like urotropin, etc.

DR. LEONARD FREEMAN pointed out that the taking of an anesthetic for the older operations acts badly upon the kidneys, and the patient must be kept in bed for at least two weeks. As to the contention that the Bottini operation is "cutting in the dark," crushing of the stone and urethrotomy are certainly more dangerous, and yet no one objects to them on the score of their being "cutting in the dark."

### Fictitious Bad Effects from Vaccination.

DR. WM. P. MUNN read a paper on the above subject. He recited the histories of three cases which came under his observation, in which various maladies occurring during the course of vaccination were ascribed to the virus. A girl, 11

years old, three weeks after vaccination, was taken with convulsions. Her temperature was high. She was unconscious for three weeks. It was a case of cerebrospinal fever, yet the parents and neighbors speak of it as having been caused by the virus. The other was a woman 35 years old, who was vaccinated by her husband, a dentist. She was taken sick when the scab was dry, with high temperature, and she lost sensation in both legs. She, too, recovered, and firmly believes the whole trouble to have been due to vaccination. In the third a death-certificate was made out by a homeopathic physician, attributing death to vaccination. Dr. Munn, who was at that time health commissioner of Denver, instituted an inquiry, and found that the secretion from the nose and throat of the dead child contained diphtheria bacilli, that another child in the house had diphtheria, and the physician's child also had it. Generalizing, Dr. Munn said that where 20,000 children are vaccinated within a short time, it is impossible to expect that all will escape the ordinary diseases of childhood, and coincident troubles will occur.

DR. E. P. HERSHEY related the history of a woman who had a papular eruption which came on one week after a vaccination. A careful examination revealed a sore throat and mucous patches. A history of exposure to syphilis, and rapid improvement under large doses of mercury, left no doubt in the minds of both physician and patient as to the nature.

## BUFFALO ACADEMY OF MEDICINE.

*Meeting of the Medical Section, held March 12.*

Dr. Sigmund Goldberg, chairman, pro tem., presiding.

### The Racial Factor in Hysteria.

DR. JULIUS ULLMAN read a paper on this topic. He cited the reports of Aruch, who studied the disease in dogs, and of Higur, who reported hysteria in a cat and canary bird. In the genus homo hysteria has been confined to no one time, latitude or race. The writer is of the opinion that racial characteristics are not so much the result of inherent qualities as of social conditions, and after classifying the physical and psychologic causes, took up the social conditions which increased this disease relatively among various races. Reference was made to the continued history of persecution among the Jews, their fertile mentality, his conditions of oppression, his exclusion from trades, segregation into ghettoes, burdening with taxes, and isolation, and the tendency this gives for consanguineous marriages and for simulation of hysteria. He also spoke of the increase of hysteria among the Latin and Slavonic races; among the latter it can be attributed to conditions of serfdom but little better than slavery. Witchcraft and demoniacal possessions were spoken of as built on a ground work of hysteria and superstition, for, as Fere says, the hysterical anethesias held first place as the marks of the devil. The Salem witchcraft in New England was spoken of, and it is not surprising to the writer that, among the progenitors of the believers of witchcraft, that other delusionary belief of "Christian Science" should have had its inception. The history of the negro native to Africa was called to mind, and the forcible kidnapping and horrifying voyage to this country in the slave-trading ships was mentioned as a sufficient cause for a psychic insult, the result of which may still be seen in hysteric manifestations in the negro of this country. The history of the native American, among whom it was shown that hysteria could not have existed, was given, and the effects of civilization and assimilation on the increase of the disease among them was shown. The Mongol and Hindoo races, among whom hysteria is relatively less frequent, also received consideration.

It was therefore shown that hysteria exists among all peoples and in all countries, and the fact that certain races, as the Jew, the Slav, the Latin and possibly the negro are relatively more affected may be attributed to causes of environment rather than inherent qualities, for as Jacobs says, if all the Johns and Maries were to be shut up in ghetto for a couple of centuries, they would undoubtedly show peculiarities in habits and thought and would develop a peculiar psychology. Heredity plays a rôle only in that a child may learn to imitate certain traits from a hysterical parent.

In conclusion it was emphasized that hysterical symptoms may exist as epiphenomena and a background in organic diseases among susceptible races. Nor is it to be forgotten that though symptoms of hysteria are well marked, the patient may at the same time have organic diseases. Better therapeutic results will, therefore, be obtained in cases where hysteria is relatively more common by the administration of drugs, suggestion and mechanical means of treatment directed against a latent hysterical condition in addition to the treatment for the organic disease if it is present.

### Hysterical Aphonia.

DR. GEORGE F. COTT read a paper on this subject, giving the various theories thus far advanced as to this condition. He pointed out the fallacy of physicians in general maintaining that the vocal organs are absolutely under the will and control of the patient since the latter is in reality possibly hopeless until proper psychic equilibrium is re-established. It was emphasized that in hysterical aphonia both cords are always similarly affected. He, however, cited a curious condition where there was anchylosis of the left arytenoid articulation leaving the cord fixed near the median line, and at every effort made by the patient to produce a sound, the false cord could be seen closing upon its fellow on the opposite side, and a harsh sound as a loud whisper was produced in this way. This again shows the possible function of the false cord. The paper closed by citing several peculiar and most interesting cases.

### X-Rays in General Practice, with Lantern Slide Illustrations.

DR. A. W. BAYLISH gave an interesting talk, illustrated by forty slides, on the advantages of this procedure in the diagnosis of surgical and medical cases. Fractures, foreign bodies, deformities of joints, as also tubercular chests and other interesting cases were shown.

## ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

*Meeting held March 23.*

DR. L. E. NEWMAN, President.

### The Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis.

DR. JOHN YOUNG BROWN read a paper on this subject. He thinks that as abdominal surgery has advanced, fewer cases of this character are seen, for the reason that the causes leading to widespread peritoneal involvement are now promptly recognized and as promptly relieved by surgery. He said that the condition known as general peritonitis yields to surgery, as is absolutely proven by the reports of many of our best operators, and he defines general peritonitis as widespread peritoneal inflammation, with bowel paresis, free filth pus and liquefied lymph, in the general peritoneal cavity, accompanied by rapid pulse, etc. The treatment is section, irrigation and drainage. His plan is to open the abdomen by a median incision. If the bowel distension is so great as to interfere with proper handling of the parts, the gas should be evacuated by bowel puncture in several places, care being taken to close the punctures with silk as soon as the purposes for which they were made are accomplished. This done, we should at once seek out the source of trouble—make such repairs of bowel as the local conditions warrant and then proceed to carefully cleanse the general cavity.

In regard to drainage, he does not believe the common practice of packing strips of gauze in different directions is a wise one. As Morris has pointed out, lymph is rapidly thrown out in the meshes of the gauze, and while it accomplishes its purposes as a drain, when it is removed raw and bleeding surfaces are left, frequently causing bowel adhesions and intestinal obstruction. A glass drainage-tube, placed at the most dependent point of the pelvis, and two or more small wick drains, placed in different directions, will accomplish all that can be done with gauze. The wicks, surrounded as they are with gutta-percha tissue, are free from the objections that plain gauze possesses. Through the glass tube we can, by means of the long syringe, manage to keep the cavity clean.

DR. L. H. LAIDLEY said that fear on the part of the surgeons of having a bad record in appendicitis had deprived many patients of their lives. The nomenclature should be revised in reporting cases, and general peritonitis from perforating appendicitis should not be called appendicitis. Present conditions and causes should be kept distinct. Some years ago he had reported a case of general peritonitis due to appendicitis. The patient had been operated on two years previously by another surgeon for appendicitis, and the subsequent peritonitis was due to breaking down of a plug of lymph. In his report he was criticised because he had not entered at the site of the appendix. But by median incision he was enabled to clear out the pus which filled the pelvic cavity and the patient recovered.

DR. A. H. MEISENBACH said that septic peritonitis was the opprobrium of abdominal surgery. It could be produced in two ways: 1, by rupture of the appendix; 2, by rupture of a walled-off appendiceal abscess. He considered four classes of appendicitis: 1, a simple inflammatory condition of the appendix; 2, abscesses walled off within the peritoneum; 3, free abscesses; 4, abscesses attached to the abdominal wall, and pointing externally. The first condition could always be successfully operated on. The second depends on the locality of incision. The fourth tends to recovery if there is not too much inflammation.

DR. H. JACOBSON believes in hunting out the appendix in almost all abscess cases, and flushing the abdominal cavity is better than packing gauze between the bowels. As in all cases of peritonitis, the toxemia causes more or less paresis, and the exudation present causes adhesions, which become more marked and dangerous to life if gauze strips are packed between the folds of the inflamed bowels.

DR. R. M. FUNKHOUSER has had few cases of the sort described in the paper, and thinks it safer to drain. He has made it a rule to flush the abdominal cavity with a weak solution of permanganate of potash, and has no cause to regret it. In some cases, packing with gauze has also seemed effective, though he would not pack high up. In operating for a localized peritonitis, he thinks there is no safer drain than a gauze wick surrounded by rubber tissue.

DR. M. B. CLOPTON said that there seems to be two types of peritonitis following appendicitis. In one the exudate is a cloudy fluid containing streptococci, in the other, colon bacilli are found, adhesions are more numerous and the process slower. In the first condition irrigation would be effective, hardly in the second. Wiping off the intestines requires too much time. For irrigation, it is better to have the water under pressure. Complete drainage is hard to attain. The prognosis seems better where the inflammatory condition from the appendix is high up.

DR. C. M. NICHOLSON said that all methods were unsatisfactory in some respects. He spoke of Fowler's latest method, of placing the patient at an angle of 45 degrees and opening at the most dependent portion. Fowler reported nine cases in his first paper and three in his second, all of which recovered. If any of these were cases of general peritonitis, there would seem to be something in the method. If localized, the term general peritonitis ought not be used: the conditions should be differentiated.

DR. A. H. MEISENBACH added that in cases where the abscess is attached to the abdominal wall, it is foolishness to hunt for the appendix; poking around may cause general infection of the peritoneal cavity. Nature takes care of the appendix in this class of cases, and he has never seen recurrence.

## PHILADELPHIA PEDIATRIC SOCIETY.

*Meeting held March 12.*

Dr. T. S. Westcott in the chair.

### Intestinal Sand.

DR. J. A. SCOTT read a brief paper on this topic, making a short resumé of the literature, which includes but six or seven articles. La Baulbene in 1873 first reported a case in which sandy material, which proved to be vegetable material with silicious particles attached, passed per rectum. He calls this material *sable intestinale*. Sheridan Delapine, in 1880, reported four cases before the London Pathological Society, followed in more recent years by D. Thomas, Lamb, G. Shattuck, Dieulafoy, Matthew and Rieuchaud, R. S. Thomson and Alex. R. Ferguson, and Eichhorst. Dr. Scott's first case was a patient of Dr. J. M. Da Costa, a woman about 40, with no organic lesions, who passed gritty material with the stools. Examination showed it to be a light yellow or yellowish-red concretion, not unlike brick-dust in appearance, microscopically looking like uric acid, but careful examination by chemical methods showed the absence of uric acid. It was considered vegetable in origin. The second case was that of a child aged 3¼ years, for eight months subject to attacks of duodenal and iliac catarrh, with marked toxemic symptoms. In the beginning of these attacks, together with undigested curds and mucus, would be found a very firm, gritty, reddish or pinkish sand, which would disappear as the stools approached normal. After maceration in strong acids the sand would gradually soften, with but little effervescence, and gummy material, crystals looking like those of fatty acids, such as are seen in fat necrosis, and epithelial cells were found. The tendency for certain materials to remain for long periods in the intestine was mentioned. A specimen of biliary sand—cholesterin—was also shown.

DR. A. A. ESHNER stated that he regards the condition somewhat a rare one.

DR. J. P. CROZER GRIFFITH called attention to the habits of children in placing different objects in the mouth. These may be composed of sandy material, as mortar from the wall of a brick house, etc. In some cases, however, the condition may possibly result from the precipitation of the salts from the milk combined with the acids of the body.

### Anatomy of Childhood.

DR. GEORGE MCLELLAN, by invitation, delivered an address on this subject, illustrated by original photographs, preparations and lantern slides. The speaker outlined the changes which occurred in the skeleton during infancy, childhood, and adult life.

DR. O. H. ALLIS called attention to the changes in the bony arches, and the differences in the relative position of the abdominal organs during infancy and adult life.

## PHILADELPHIA PATHOLOGICAL SOCIETY.

*Meeting held March 14.*

President, DR. FREDERICK A. PACKARD, in the chair.

### Snake Venom.

DR. JOSEPH MCFARLAND made some remarks on snake venom, referring to the work of Fontana, Mitchell, Reichert and Calmette, and stating that the venom from serpents may be conveniently classified into that obtained from vipers and that from cobras. The venom of all serpents is alike in color, and the secretion corresponds to that from the parotid glands of man. The venom may be collected by catching the serpent around the head by means of a piece of leather fastened on the end of a stick, after which its mouth may be opened and the secretion pressed out. Venoms irritate the mucous membranes, and when injected under the skin they produce local necrosis, hemorrhagic extravasations, and more or less toxic symptoms. Animals succumb from the poison due to its action on the heart. Chemically the venom consists of globulins and peptones, the former of which may be precipitated by heat, leaving the peptones in solution. Globulins paralyze the respiratory centers. Calmette heated the venom, thus getting rid of the globulins, and injecting the peptones into animals, producing a certain degree of immunity against snake bite. The speaker had experimented with rattlesnakes, copperheads, etc. The hog and the mangoose have a natural immunity. He has endeavored to render the horse immune against snake bite, and partially succeeded. He has also been able to obtain an antivenene which gave partial immunity to rabbits. As the venom of different snakes varies, it may be that one variety of antivenene may not be protective against the bite of certain kinds of serpents.

In his experiments he first used rattlesnake venom and

later that of the cobra. The first series of experiments was made with unheated venom, the second with unheated venom introduced under the skin, and the third by injecting the unheated venom immediately into the veins. The heated venoms produced little reaction, while the unheated killed rabbits in from a few minutes to two hours. The heated produced a partial immunity against the unheated. The secretion of the cobra, introduced under the skin of the horse, produced extensive swelling, followed by suppuration. He next injected venom into the veins and at no time was there any local reaction, but he obtained physiologic effects, such as increased rapidity of the heart's beat, and accelerated and shallow respirations. The serum from the horse which had received the injections was tested three different times, and no alteration from the normal could be found. After using unheated venoms, a reaction was obtained. The serum seems to have the greatest antitoxic power subsequent to the injection of large doses of venom. He has obtained an antivenene 2 c.c. of which will protect rabbits against an ordinary fatal bite.

DR. J. DUTTON STEELE asked as to the dose of antivenomous serum to be given in the case of man.

DR. FREDERICK PACKARD asked whether the peptones killed by the paralyzant effects on the heart.

DR. MCFARLAND, in reply to Dr. Steele, stated that about 10 c.c. of the serum should be injected. As to the question of Dr. Packard, the peptones seem to kill by action on the respiratory centers. The globulins act on the blood-vessels, allowing the extravasation of serum and blood-corpuscles. In his opinion whisky is contraindicated in all cases of rattlesnake bite. Strychnin would appear to be the best drug. As to local treatment, Calmette advises immediate ligation and cupping, or sucking out of the poison, after which a 10 per cent. solution of chlorid of lime should be injected into about ten different localities immediately surrounding the wound. Probably one reason that the supposed good effects result from the administration of whisky in snake bites of all kinds, except those of the rattlesnake, is that injuries of this kind are rarely fatal in this country.

### Carbohydrates of Urine in Diabetes Insipidus.

DR. DAVID L. EDSALL read a paper on the subject. After reviewing the literature regarding the estimation of carbohydrates in diabetic urine, he detailed a case. The patient was a man, 27 years of age, under the charge of Dr. Alfred Stengel. In June, 1900, he suffered from polyuria, emaciation and thirst. When admitted to the hospital he was suffering from typhoid fever. At this time there was no acetone, nor diacetic acid in the urine. After recovering from typhoid the condition of diabetes insipidus was watched carefully. He found no increase in the fermentable carbohydrates. Normally they should be about 2 grams daily. The nitrogen was also estimated to see whether the benzo-esters fluctuated with it, and he found that they fluctuated synchronously, depending somewhat on the amount of fluids taken. The patient was kept on a regulated and constant diet. His results proved that the diet plays a most important part in the excretion of unfermentable carbohydrates.

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# Therapeutics.

### Venereal Papillomata.

A subscriber asks for a short statement of the best treatment of venereal warts. He has used nitric acid, cautery, carbonate of soda, caustic potash, and has ligated them, and no improvement; they always return.

ANSWER.—As our inquirer seems to have employed unsuccessfully the usual methods of treatment, we give below other preparations which will probably permanently destroy the growths.

Lang gives the following treatment:

℞. Ferri sesquichloridi cryst.
Spts. vini dil., āā.....3iiss 10

M. Sig.: To be painted on the pedunculated venereal papillomata.

He suggests, sometimes, the following, which is painful when applied, but quickly removes the warts:

℞. Liquoris potassæ causticæ (30 per cent.).3ii 8
Lythargyri .....gr. iv 25

M. Sig.: To be applied carefully only to small and broad-based venereal papillomata, by means of a fine cotton tampon or a pointed piece of wood, or to be rubbed in until the base of the wart becomes covered with a scab on a level with the surrounding integument, or somewhat below it; the part is then to be covered with a gauze bandage.

℞. Acidi arsenosi.
Morph. muriatis, āā.....gr. iv 25
Hydrarg. chloridi mitis.....3ss 2
Pulv. acaciæ .....3iii 12

M. Sig.: To be applied to the venereal warts.

He also recommends resorcin in powder form, as follows:

℞. Resorcini .....3ii 8
Sacch. albi .....gr. xv 1

M. Sig.: to be applied locally.

Or,

℞. Resorcini .....3ss-3iss 2-6
Aq. destil. .....℥iii 96

M. Sig.: Apply locally.

Very large papillomata which can not be made to disappear by means of local application, should be removed by surgical measures, as the sharp spoon or scissors, and the base cauterized with Paquelin cautery; local anesthesia will usually suffice for this operation.

### Treatment of Chancroid.

Sturgis, of New York, outlines the following treatment for chancroid:

First arrest the virulent and destructive character of the ulcer, either with the actual cautery or other caustics in severe cases, and by alterative applications in mild ones. For the severe cases, as destructive agents either the actual cautery or the galvano-cautery can be used; strong sulphuric acid; pure nitric acid; pure carbolic or chromic acid.

As dressings subsequently the following powders are in common use:

℞. Pulv. iodoformi .....3iss 6
Lycopodii .....3ii 8

M. Sig.: Apply locally.

Or, as an astringent:

℞. Pulv. iodoformi.
Pulv. acid. tannici, āā.....3ii 8

M. Sig.: Use locally.

Or,

℞. Pulv. iodoformi .....3i 4
Zinci sulphatis.....gr. v 30
Pulv. ac. tannici.....3i 4

M. Sig.: For local application.

If wet dressings are preferable to dry ones, then a carbolized solution of water of 1 per cent. strength; or a solution of zinc sulphate, about 5 grains to the ounce, can be used. Where the chancroids are concealed either in the urethra or behind a phimosis, a dressing containing the following lotion is recommended by Sturgis:

℞. Lig. plumbi subacetat.
Tinct. opii, āā.....℥i 32
Aquæ, q. s. ad.....℥viii 256

M. Sig.: Use locally as a dressing at night. The genitals should be bathed in hot water several times through the day.

### Treatment of Syphilis.

As distinguished from the treatment of chancroid, which, like gonorrhea, is only local in its effects, the initial sore of syphilis should never be cauterized nor excised; nor is it necessary that the mercurial treatment be begun with the appearance of the chancre, as it is powerless to check the infection. The treatment should be of the simplest kind, consisting of stimulating and protective dressings. As dry dress-

ings the following are recommended, of which the iodoform is much the best although disagreeable in odor:

℞. Pulv. iodoformi .....3iiss 10
Hydrarg. chloridi mitis.....3iss 6

M. Sig.: Apply locally to the sore.

Or,

℞. Bismuthi subgallati .....3ii 8
Pulv. lycopodii .....3i 4

M. Sig.: Apply locally.

When the chancres present a destructive tendency then apply the following:

℞. Hydrargyri chloridi mitis.....3ii 8

Sig.: Apply locally.

As a rule the tendency of the initial sore is toward healing and cicatrization unless unwisely treated, so that it is better to use the milder dressings locally, such as aristol, iodol, europhen, nosophen, acetanilid or orthoform. As a wet dressing, if it is thought best to apply such, one of the following is probably preferable:

℞. Acidi carbol. .....gr. ii-iv 12-25
Aquæ. .....℥iv 128

M. Sig.: Apply on lint two or three times a day.

Or,

℞. Sol. hydrarg. chloridi corros. (1:1000 or 1:300).

Sig.: Apply locally every three or four hours.

Or,

℞. Hydrogeni peroxidi .....℥ss 16
Ag. destil .....℥iv 128

M. Sig.: Apply locally three or four times a day.

In treatment of the initial sore in women, Lang, in "Twentieth Century Pract.", recommends the following:

℞. Hydrarg. chloridi corros.....gr. ¾-iii 05-20
Spts. vini
Spts. etheris sulph. āā.....3iiss 10

M. Sig.: To be painted on the affected part.

Or,

℞. Ung. hydrarg. .....lxxv 5
Ol. theobromæ .....3iiss 10

M. Ft. Suppos. No. x. Sig.: One to be placed in the vagina. These may be borne by pregnant women.

### TREATMENT OF MUCOUS PATCHES.

The patient should be instructed to keep the nose and mouth scrupulously clean by frequently rinsing the mouth and nasal cavities. He should avoid chewing tobacco and smoking in order to prevent relapse. Silver nitrate applied locally to the ulcers every few days gives very good results. As a gargle to cleanse the mouth the following is of service:

℞. Potassii chloratis.....gr. xl 2 66
Tinct. myrrhæ .....3iv 16
Aq. destil. .....℥iv 128

M. Sig.: Use as gargle two or three times a day.

### TREATMENT OF PUSTULAR SYPHILIDS.

℞. Hydrarg. chloridi corros.....gr. iii 20
Alcoholis
Tinct. benzoini
Glycerini, āā .....3i 4
Aq. rosæ q. s. ad.....℥iii 96

M. Sig.: Apply locally.

### PALMAR SYPHILIDS.

Ohmann-Dumesnil recommends the following:

℞. Acidi salicylici.....gr. xx 1 30
Ichthyoli .....3ss 2
Ung. aq. rosæ.....℥i 32

Misce. Sig.: Apply night and morning.

After the lesions have disappeared, apply the following to ward off recurrences:

℞. Hydrarg. chloridi mitis.....gr. xv 1
Ung. aquæ rosæ.....℥i 32

M. Sig.: Apply locally night and morning.

### CONSTITUTIONAL TREATMENT.

It is generally stated that constitutional treatment should not be employed until the secondary stage has made its appearance, claiming in this way to avoid mistakes in diagnosis, as the administration of mercury might retard the outbreak of the secondary symptoms. Mercury is the preparation for the early constitutional treatment, which may be employed in the form of an inunction, in vapor form, given hypodermically or per os.

As an inunction, Shoemaker states that the efficacy of the ointment of mercury may be increased by combining with it some stimulating oil or green soap:

℞. Ung. hydrarg. nitratis
Saponis viridis, āā.....℥iss 48
Olei eucalypti .....3ss 2

M. Sig.: Rub in well into the inner part of the thigh or arm, a piece the size of a marble once daily.

Or,

℞. Ung. hydrarg. ammon.....℥ii 64
Olei anthemidis .....3ss 2

M. Sig.: Apply locally.

Or,

℞. Ung. hydrarg. oleatis (10 per cent.)...℥ii 64
Olei cadini .....3ii 8

M. Sig.: Apply locally.

In severe cases of secondary syphilis, Dr. Dymnecki states that he derived benefit from the administration of quinin internally, associated with the inunction of mercury.

The place of applying the ointment must be changed. The points most favorable to the application are the inner aspects of the arms or thighs, the soles of the feet, before putting on the stockings in the morning.

#### HYPODERMICALLY.

℞. Tablets hydrarg. chlor. corros., āā..gr 1/25

Sig.: Inject once or twice daily, between the scapulae, or deep into the gluteal muscles.

#### BY FUMIGATION.

The patient is first advised to take a bath. He is then seated upon a chair with a perforated seat, beneath which is placed an alcohol lamp. A metal saucer containing from thirty grains to one dram of mild chlorid of mercury is placed over the lamp. The patient is then covered with a cloak or rubber cloth which fits snugly around the neck, and extending to the floor. The lamp is then lighted and a mercurial vapor is produced, which is deposited on the body. After the patient has been exposed to the fumes for fifteen or twenty minutes, he is placed in bed for several hours. This treatment may be repeated daily.

#### BY THE MOUTH.

℞. Hydrarg. iodidi flavi, āā.....gr. 1/5 012

Ft. pil. No. i. Sig.: One pill three times a day.

Or,

℞. Massæ hydrargyri.....gr. iii 20

Or,

Fiat pil. No. i. Sig.: One such pill three or four times a day, after eating.

Or,

℞. Hydrarg. chloridi corros.....gr. 1/40 0015
Sacch. lactis, q. s.

Fiat pil. No. i. Sig.: One such pill three times a day, after meals.

If the evacuations become too frequent or produce pain, small doses of pulverized opium may be given at the same time. Should the diarrhea still continue, the mercurials will have to be discontinued for a while.

Hutchinson states that mercury should be administered before the secondary symptoms have made their appearance, and that it is unwise to wait for these manifestations. He prefers the internal administration of mercury to either the inunction or the injection hypodermically. He uses the following:

℞. Hydrargyri cum creta.....gr. i
Pulveris opii.....gr. ¼ 015

M. Ft. capsula No. i. Sig.: One such three times a day for the first week, then four times a day, and later increased to five times a day.

THE ADMINISTRATION OF THE IODIDS.

It must be remembered that the iodids are of but little benefit except in the later stages of the disease. The best preparation is the potassium or the sodium salt:

℞. Potassii iodidi .....ʒi 32
Aq. destil. .....ʒi 32

M. Sig.: Begin with ten drops and gradually increase the dose to the point of tolerance. These patients as a rule will tolerate daily doses ranging from 60 to 150 grains.

IODALBACID IN TREATMENT OF SYPHILIS.

When potassium iodid is administered in large doses almost the entire amount can be detected in the urine. For instance, if it is administered in 50 or 60 grain doses, 30 or 40 grains of that amount will be excreted by the kidneys, as it is very rapidly absorbed from the mucous membrane of the stomach and excreted almost as rapidly by the kidneys unchanged. The remaining portion is oxidized and liberates free iodin, which is in part excreted and in part is combined with the albumin. In speaking of this Zuelzer, as noted in the *Med. Review*, speaks of *iodalbacid*, which is a combination of iodin (10 per cent.) and albumin. It is much more slowly absorbed than potassium iodid, more slowly oxidized and consequently more slowly excreted. He states that in very acute cases of tertiary syphilis, in which a rapid effect is desired, potassium iodid, if well borne, is preferable to this newer preparation. In all other cases, especially when a slow but protracted action is required, iodalbacid is superior to potassium iodid.

ANEMIA IN SYPHILIS.

℞. Ferri et quin. citratis.....ʒiiss 10
Ft. pil. No. xxx. Sig. One pill three times a day.

# Medicolegal.

**Fifteen Thousand Dollars for Personal Injuries.**—On the appeal of the Galveston, Harrisburg & San Antonio Railway Company vs. Eckles, the Court of Civil Appeals of Texas approves of allowing a switchman $15,000 damages for personal injuries. The evidence introduced by the latter, it says, established that he had been transformed, by the injuries inflicted on him, from a robust young man into a pitiable wreck in mind and body, and that for ten years he had suffered intensely. The jury returned a verdict for $30,000. From this $10,000 was voluntarily remitted. On the first hearing, though it was the third time that the case was before it, the court of civil appeals declared that it did not feel authorized to hold this verdict excessive as reduced by the remittitur. But, on rehearing, it decided to affirm the judgment of the court below conditioned on enough be remitted to make the verdict not exceed fifteen thousand dollars. More particularly, it appears that the man's head was mashed so that blood spurted out from his ears, and one of his eyes was forced from its socket and hung from his cheek; that unconsciousness resulted for two or three weeks; that he was in bed for many months; that his skull was fractured, and portions of it taken out; and, in short, that his physical and mental condition had been changed as before stated.

**Physical Examination of Insane Person.**—When one who is afflicted has been deprived of his liberty and property, and is seeking to regain their possession by establishing his present competency, Mr. Justice Ftzgerald holds, at a special term of the Supreme Court of New York, New York County, *In re* Newcomb, that the court should proceed with great care, to the end that he be not subjected to any harassing or oppressive conditions. Assuredly, he should be spared annoyances calculated to exercise painful influences, or cause him undue excitement; and to subject him to examination by doctors who have committed themselves by previously expressed sworn statements to the effect that his malady is incurable, the judge says, would appear to be a hardship. Wherefore, in this case, a motion that certain physicians be allowed to make a physical and mental examination of an applicant for the discharge of a committee of his property was denied, objection having been made to one of the physicians that he was personally distasteful to the party seeking to establish his competency, and to others of them that they had committed themselves to the diagnosis that he was suffering from an incurable mental disease.

**Not Death During Intemperate Use of Intoxicants.**—One of the provisions in a policy of life insurance was that in case the person whose life was insured should become intemperate in the use of intoxicating liquors or opium, the company might, at its option, cancel the policy. Another was that should the insured die during or by reason of the violation of the foregoing provision, then the reserve value of the policy only should be paid. The insured drank a good deal, it appeared, but his death was from consumption, and he was unable for several months before his death to drink as much whisky as the physicians prescribed for him. Under these circumstances, the Court of Appeals of Kentucky holds, Union Central Life Insurance Company vs. Hughes' administrator, that, the insured having been an invalid for six months before he died, and his habits during that time good as to the use of intoxicating liquor, it could not be said that he died during a violation of the stipulation of the policy against the intemperate use of intoxicating liquors, and that the full amount of the policy was payable.

**The Defense of Insanity Broadly Considered.**—Under the Oklahoma statutes the test of responsibility for crime is fixed at the point where one has the mental capacity to know that the act is wrong, and if one has sufficient mental capacity to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequences of such act, he is responsible for the same. It is immaterial, the Supreme Court of Oklahoma says, in Maas vs. Territory, what standard scientific men may fix, or by what rules the medical profession determines that one is a lunatic or insane, he is in law insane or a lunatic, or of unsound mind, or temporarily or partially deprived of reason, to such an extent as will excuse him from punishment, only when he has not the capacity to know the wrongfulness of the particular act. But the knowledge of the wrongfulness of an act also embraces capacity to understand the nature and consequences of the same. Upon the question of the extent to which the duty of proving that he was incapable of knowing the wrongfulness of the act is upon the defendant the authorities differ. Two states, New Jersey and Delaware, follow the rule that he must prove his insanity beyond a reasonable doubt before he can be acquitted. Perhaps, on the other hand, two-thirds of the states follow the rule that the defendant must prove his insanity by a preponderance of the evidence. Among the states following this rule are Alabama, Arkansas, California, Connecticut, Georgia, Idaho, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, West Virginia, and Nevada, and this is the rule in England. But with the development of criminal law, and the advancement of civilization, the rules which once governed the defense of insanity, the court goes on to say, are being relaxed so as to give defendants the fullest opportunity to present the truth to the court and jury, that full justice may be done; and, while it is true that this defense is sometimes successfully manufactured and imposed upon courts and juries, the adjudicated cases show no greater abuse of this defense than of the defense of alibi or self-defense. The defense of insanity, when successfully made, appeals to the tenderest sentiments and mercies of the jury, but when feigned and detected it invites their utmost contempt; and, while juries are always ready to deal kindly with one who is so unfortunate as to be dethroned of his reason to such an extent that he can not distinguish between right and wrong, they are also, as a rule, quick to punish a guilty defendant who tries to escape the result of his act through fraud and deceit. Therefore, viewing this defense from every standpoint, the court sees no good reason why the defense of insanity should be singled out and governed by rules as to burden of proof different from those applicable to other cases, and it feels constrained to enunciate the rule as to the burden of proof, where the defense

is insanity, to be this: Every person is presumed to be sane, or of sound mind, and able to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequence of such act; and the burden is upon the defendant in the first instance to overcome this presumption by introducing sufficient evidence to raise a reasonable doubt as to his sanity. When this is done, then the state must prove the defendant's sanity beyond a reasonable doubt, in order to secure a conviction; and if, taking the evidence all together, the jury entertains a reasonable doubt as to the defendant's sanity, he should be acquitted. This rule is now the settled law of Illinois, Indiana, Kansas, Michigan, Mississippi, New Hampshire, New York and Nebraska.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

### Philadelphia Medical Journal, March 23.

1 *Toxicology of Tellurium Compounds, with Some Notes on the Therapeutic Value of Tellurates. William J. Gies.
2 *Some Modern Gynecological Resources. Augustin H. Goelet.
3 Dejerine-Erb Type of Upper-arm Palsy Following Multiple Neuritis. D. J. McCarthy.
4 *A New Treatment for Tuberculous Glands of the Neck with Minimal Scarring, Involving a Method of Sterilizing a Tuberculous Region Through the Lymph Channels. G. Betton Massey.
5 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus—Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia. (Continued.) Thomas H. Manley.

### New York Medical Journal, March 23.

6 *Some Retrospects and Prospects in Genito-urinary Surgery. Reginald Harrison.
7 *The Physical Examination of the Stomach. Mark L. Knapp.
8 *Infective Sigmoid Sinus Thrombosis. Clarence R. Dufour.
9 The Pathology of Intrauterine Death. (Continued.) Neil McPhatter.
10 *Emphysema of the Eyelid from Nasal Causes. Beaman Douglass.

### Medical News (N. Y.), March 23.

11 *Cerebrospinal Meningitis (Weichselbaum Jaeger) Treated by Repeated Lumbar Puncture. Henry Koplik.
12 *Drainage in Abdominal Surgery. J. W. Long.
13 *Vertigo: A Stomach Lesion. Martin A. H. Thelberg.
14 An Interesting Case of Splenic Anemia. Herbert Maxon King.

### Medical Record (N. Y.), March 23.

15 *1. A Case of Ambulatory Typhoid Fever with Intestinal Perforation. 2. A Case of Traumatic Rupture of the Intestine; Operation; Recoveries. Remarks Concerning Operation in Cases of Typhoid Fever with Intestinal Perforation. A. A. Berg.
16 *Chronic Gonorrhea and Marriage. Ludwig Weiss.
17 *Excision of Aneurysm, with a Report of Two Cases of Femoral Aneurysm so Treated. George Ryerson Fowler.
18 *Conservatism in the Diagnosis and Treatment of Prostatic Hypertrophy. James R. Hayden.
19 Subphrenic Abscess as a Complication of Appendicitis. J. McF. Gaston, Jr.
20 *Surgical Treatment of Abdominal Dropsy Following Cirrhosis of the Liver. James T. Jelks.

### Boston Medical and Surgical Journal, March 21.

21 Puerperal Insanity. Arthur C. Jelly.
22 *Meat Ration in the Tropics. P. R. Egan.
23 *Bubonic Plague. Joseph J. Curry.
24 A Case of Retroperitoneal Lymphangiosarcoma: Operation; Recovery; No Recurrence After Two Years. T. B. Lund.
25 Vomiting of Pregnancy—Suspension of Pregnant Uterus—Extrauterine Pregnancy—Operation for Fibroids. Reported by J. Oswald Vogel

### Cincinnati Lancet-Clinic, March 23.

26 *Intestinal Vegetations. I. F. Tunison.
27 *Occupations Which Produce Rectal Diseases. Geo. J. Monroe.
28 A New Remedy for Hemorrhoids. E. V. Hall.

### St. Louis Medical Review, March 16.

29 *Middle-Ear Disease in its Relationship to the Cranial Cavity. Otto Stein. With Abstracts of Five Cases, Explanatory of Illustrations. (Continued.) Carl Barck.

### Medical Age (Detroit, Mich.), March 10.

30 *The Use and Abuse of the Galvanocautery in Nasal Surgery. C. D. Conkey.
31 Remarks on the Surgery of the Nineteenth Century. Hal C. Wyman.

### Virginia Medical Semi-Monthly (Richmond), Feb. 22.

32 Acute and Chronic Bright's Disease: Symptoms, Etiology, Treatment, etc. Frederick Horner.
33 Our Conduct During Labor. Elmer Sothoron.
34 Notes on Epidemic Influenza. G. W. Drake.
35 A Handy Device in the Treatment of Opium Narcosis. W. H. Lyne.
36 Safety Pin in the Larynx—Removal by Tracheotomy. Walter A. Wells.
37 *Intestinal Indigestion (Dystrypsia Intestinalis), Nature and Concept. John C. Hemmeter.
38 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
39 *Have We a New Treatment for General Septic Infections? Van Tellburg-Hofman.
40 *Uterine Reflexes. J. N. Upshur.
41 Moot Questions in Abdominal Surgery. H. A. Royster.
42 Gonorrhea and Chancroid—Their Modern Treatment. M. A. Auerbach.

### Fort Wayne Medical Journal-Magazine, February.

43 Law and Insanity. H. I. Smith.
44 Criminals from the Standpoint of a Physician. W. D. Calvin.

### Annals of Gynecology and Pediatry (Boston), March.

45 *A Plea for Enterostomy in Acute Intestinal Obstruction. Emanuel J. Senn.
46 *Topical Applications in Gynecologic Practice: Their Use and Abuse. J. M. Andrews.
47 Angio-neurotic Oedema of a Rheumatic and Scorbutic Affection. S. Sellikovitch.
48 Laryngeal Habit Spasm with Report of a Case. Luther C. Peter.
49 *Case of "Head-Knocking" of Medicolegal Interest. Charles J. Aldrich.

### Clinical Review (Chicago), March.

50 Some Points in the Diagnosis of the More Common Gynecological Diseases. Thomas J. Watkins.
51 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
52 The Treatment of Bronchitis. J. M. Patton.

### Woman's Medical Journal (Toledo, Ohio), February.

53 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
54 Etiology of Puerperal Eclampsia. Jeannette C. Wallace.

### The Post-Graduate (N. Y.), March.

55 *The Cure of Procidentia Uteri. Bache Emmet.
56 Palpation of the Uterine Appendages. George Gray Ward, Jr.
57 Cesarean Section for Fibrocystic Uterine Tumor. George L. Brodhead.
58 Obstetrical Notes. R. Cronson.
59 Report of Clinics. (Cystic Ovary.) H. J. Boldt.
60 Report of Clinic. (Retroversion of Uterus, Endometritis, Chronic Appendicitis, etc.) Prof. Edebohls.

### Medical Fortnightly (St. Louis), March 11.

61 London Hospitals. Warren Brown.
62 Practical Hydrotherapy. Frank R. Fry.
63 Pernicious Malaria. Arthur R. Edwards.
64 *The Clinical Value of Purgative Mineral Waters. Edwin Rosenthal.

### American Practitioner and News (Louisville, Ky.), Feb. 15.

65 *Circumcision. Ernest G. Mark.
66 *A Few Notes on Naso-Pharyngeal Diseases Common to the Adult. S. G. Dabney.
67 *The Dangers of Glassware. J. S. Hoskins.

### Albany Medical Annals, March.

68 The Duty of the State Toward its Idiotic and Feeble-minded. John F. Fitzgerald.
69 The Value of Antitoxin in the Prophylaxis of Diphtheria. Henry L. K. Shaw.
70 Discussion of Paper of Dr. J. Collins Warren. Robert T. Morris.
71 Report of an External Urethrotomy: Wheelhouse Operation. J. W. Wiltse.
72 Hyperplasia of the Pituitary Body with Eburnation of the Skull. J. M. Mosher and George Blumer.

### Chicago Medical Recorder, March.

73 Resection of the Gasserian Ganglion. Carl Beck.
74 *Exophthalmic Goiter Successfully Treated with Collodion Dressings. Allen T. Haight.
75 New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. G. Kolischer.
76 Pylorectomy for Cancer. Arthur D. Bevan.
77 *Interstitial Gingivitis as a Prominent Obvious Early Symptom of Autointoxication and Drug Poisoning. Eugene S. Talbot.
78 A Case of Laryngeal Stenosis and a Case of Infantile Scurvy. I. A. Abt.
79 *Have We a Continued Fever Which is Neither Typhoid Nor Malarial? T. J. Happel.

### Western Medical Review (Lincoln, Neb.), March 15.

80 *Operative Management of Tubercular Hip-Joint Disease—A Critique. A. F. Jonas.

81 *Insanity in Women Associated with Pelvic Diseases. W. O. Henry.
82 *Topical Applications in Gynecological Practice; Their Use and Abuse. J. W. Andrews.
83 Hernia of the Bladder. Charles C. Allison.
84 Some Cases of Abdominal Section. (Strangulated Hernia, Appendicitis, etc.) A. B. Anderson.

Canadian Practitioner and Review (Toronto), March.

85 The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
86 Asheville, N. C., as a Health Resort for Pulmonary Tuberculosis. J. Price-Brown.
87 Cancer of Uterus. C. Wagner.
88 Report of an Operation for Jacksonian Epilepsy. H. M. Thomas.

Oklahoma Medical Journal (Guthrie), March.

89 Fever—What Is It? How Shall We Treat It? C. B. Bradford.

Medical Bulletin (Philadelphia), March.

90 Urticaria. John V. Shoemaker.
91 *The Use of "Normal Salt Solution" in Typhoid Fever. George W. Pfromm.
92 *Heroin. W. Blair Stewart.
93 Neurasthenia and Insomnia. William Hooker Vail.

Peoria Medical Journal, March.

94 Report of Operations—Genital Prolapse in Women and its Cure; Removal of Gall-Bladder by the W. J. Mayo Method; Septic Infiltration of the Abdominal Walls Following an Attack of Appendicitis; Stenosis of the Pylorus Following Gastric Ulcer. J. F. Percy.
95 Medical Charities in Their Relation to the Public, to the Profession, and to the Individual Physician. Emil Amberg.

International Medical Magazine (N. Y.), March.

96 *Common Anomalies of the Colon. W. Wayne Babcock.
97 Leukemia and Pseudo-Leukemia. Charles H. Miner.
98 Certain Skin Diseases and Some of Their Complications. J. Frank Wallis.
99 Detection of Bile Pigment and Bile Acids. Determination of Uric Acid. A. Robin.
100 The Causes of Cough in Children. John Madison Taylor.
101 Acute Pharyngitis. E. B. Gleason.
102 The Routine Examination of Women Following Confinement. John Cooke Hirst.

Iowa Medical Journal (Des Moines), January 15.

103 Fractures of the Pelvis. J. N. Warren.

Denver Medical Times, March.

104 Address before Arapahoe County Medical Society. C. K. Fleming.
105 The Spectacle Diseases. James E. Free.
106 The Antiseptic Treatment of Gonorrhea. Louis Stern.
107 The Cecum and Appendix. Byron Robinson.

Journal of Medicine and Science (Portland, Maine), March.

108 *Nine Questions on Syphilis, with Answers from a Number of Authorities. B. B. Foster.
109 Eczema. G. A. Pudor.
110 Congenital Dislocation of the Shoulder, with Report of Two Cases. Daniel W. Marston.
111 Address at the Lincoln Club. E. E. Holt.
112 Electro-Therapeutics. (To be continued.) E. H. Judkins.

Canada Lancet, (Toronto), March.

113 Medical Ethics and What Pertains to a Physician's Reputation and Success. Herbert A. Bruce.
114 A Case of Puerperal Fever Treated with Antistreptococcus Serum—Recovery. A. H. Garratt.
115 Remarks on Medical Aspects of the War in South Africa. J. T. Fotheringham.
116 Cerebral Palsies of Children. Lusk and Parsons.
117 A Case of Laminectomy. G. A. Bingham.

Love's Medical Mirror (St. Louis, Mo.), February.

118 *Congenital Dislocation of the Shoulder with Report of Two Cases. Daniel W. Marston.
119 How to Write Well. Geo. F. Butler.
120 Topical Applications in Gynecological Practice—Their Use and Abuse. J. W. Andrews.
121 Defective Elimination and Buffalo Lithia Water as a Relief. I. N. Love.
122 *Salophen—A Summary. Edward C. Hill.

Medical Sentinel (Portland, Ore.), March.

123 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
124 Face Presentation. J. S. Hammond.
126 Clinical Report of a Fatal Case of Hemorrhagic Smallpox. W. Gilbert Cole.

American Medical Compend (Toledo), March.

126 A Report of Two Cases of Appendicitis, with Unusual Complications. Wm. J. Gillette.
127 The Will, in Health and in Disease. Mary E. Law.
128 Gonorrheal Urethritis. H. E. Smead.
129 Hysteria. Anna G. Smith.
130 Therapeutics of the Various Derangements of Menstruation. D. E. Bowman.

New Orleans Medical and Surgical Journal, March.

131 *Cocain and Eucain in Local Anesthesia, as Applied by the Combined Infiltration and Regional Methods in Major Surgery of the Extremities, with Illustrative Cases. Burdett Atkinson Terrett.
132 *On Hypertrophy of the Left Ventricle in Plain Stenosis of the Mitral. Cosimo Noto.
133 *A Case of Labor with Triplets. T. B. Odom.

Medical Summary (Philadelphia), March.

134 Good Health. Geo. J. Monroe.
135 Boils—Abscesses. J. H. Yarnall.
136 Heroin Hydrochlorid in Grippe. William D. Blackwood.
137 Is the Cause of Malarial Disease Due to the Mosquito? J. F. Griffin.
138 Membranous Croup: A Comparison and a Lesson. F. J. Faughnan.
139 Hypodermatology. M. G. Price.
140 Treatment of Urethral Stricture by Electrolysis. H. B. Stanley.
141 Treatment of Jaundice. G. O. Smith.
142 Report of a Rare Case. (Skin Complications in Gout.) W. H. Bentley.
143 Perinephritic Abscess. C. E. Tucker.
144 Pneumonia and its Treatment. J. W. P. Smithwick.

Texas Medical News (Austin), February.

145 Two Interesting Cases of Hernia, One of Them Strangulated, Operation with Recovery in Each Case. H. A. Barr.
146 The Evils Resulting from Tight Lacing. B. F. Calhoun.
147 A Fatal Hemophilia of a New-Born. E. A. Malsch.
148 A Simple Device in Draining the Bladder for Cystitis in Female. J. H. Reuss.
149 The Role of the Mosquito in Malarial Infection. Walter Shropshire.

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## AMERICAN.

1. **Tellurium Compounds.**—Gies' article is a review of the facts so far as known and published of the action of tellurium compounds on plants, animals, and man. The author has also made original experiments on dogs, in connection with Mr. L. D. Mead, and they found that nontoxic doses of tellurium, several times as great as the therapeutic dose, and in the forms of oxid, tellurite, tartrate, and tellurate, did not materially affect metabolism in dogs, brought to the state of metabolic equilibrium, even when dosage was continued for a week. The substance appeared to stimulate proteid catabolism only slightly. It increased somewhat the weight of the dry matter in the feces and slightly diminished the absorption of fat. The urine was unaffected, excepting that it became dark brown in color. Excessive doses retarded gastric digestion, and caused vomiting, anorexia and somnolence. They also caused inflammation and disintegration of the gastric and intestinal mucosa and intestinal hemorrhage. Introduced under the skin tellurium caused restlessness, tremor, weakening of reflexes, somnolence, diarrhea, paralysis, unconsciousness, stoppage of respiration and death in convulsions from asphyxia. Much of the tellurium was deposited in metallic form, but it was also distributed throughout the organs and tissues. It was found that tellurium compounds in small proportions diminished the secretion of gastric acid, but did not increase intestinal putrefaction or diminish the action of trypsin or pepsin outside the body. Zymolysis was almost unaffected in the presence of almost as much as 1.25 per cent. of the salts. Ptyalin was more easily affected, even by the faintly alkaline tellurate. Tellurium was eliminated in the metallic form in the feces; as methyl telluride in the breath, urine, feces and epidural secretion; in a soluble form in small quantities in the urine and bile. The return of the urine to normal color was rapid after discontinuence of the administration. Albumin and bile pigment, besides tellurium, were the abnormal constituents of urine found after hypodermic injections. Toxic quantities given by the mouth cause the appearance of coagulable proteid, but not bile pigment in the urine. The literature of its influence on man is reviewed and the peculiar odor which it gives to the breath specially noted. Its therapeutic value seems to be in its anhydrotic action chiefly. The alliaceous odor of the breath appears to be the chief objectionable feature from its therapeutic dose.

2. **Modern Gynecologic Instruments.**—Goelet's paper is a description of gynecologic instruments devised by him; the uterine dilator, tent cover, endoscope, and irrigator.

4. **Treatment of Tuberculous Glands.**—The treatment described is based on the destruction of bacilli by the cataphoric diffusion of nascent oxychlorid of mercury, developed in their midst by the electrolysis of metallic mercury on a small gold electrode. An opening is made through the skin and into the gland, and a sliver of amalgamated zinc is pushed in, non-insulated, and a weak galvanic current—one to three milliamperes—turned on gradually and maintained for a few minutes to cauterize the tract and keep it open for the treatment proper. When this is accomplished the zinc electrode is withdrawn and a gold electrode about the caliber of a No. 18 wire previously amalgamated with as much mercury as possible for a quarter of an inch from its point, the remainder of the instrument being insulated. From 2 to 10 milliamperes is now turned on and kept up for ten minutes or until all the mercury has been dissipated from the gold surface. After which a piece of absorbent cotton is placed over the opening and topped by a piece of plaster and the operation is repeated after two to three days. A drop of a 10 per cent. solution of cocain in the opening will deaden all pain. The purpose of the sinus thus formed is the drainage of the products of the dead bacilli and deposited chemicals, as well as to facilitate direct application. The chemical deposit will keep the wound antiseptic. Massey believes that the effect is not confined entirely to the gland operated on, but also involves other glands in connection with it. He reports two cases thus treated.

6. **Genito-Urinary Surgery.**—The principal subjects noticed by Harrison are litholapaxy, which he considers one of the greatest advances of the century just closed, prostatic hypertrophy and also kidney disorders. He remarks, in regard to prostatic conditions, that the form of hypertrophy may be very variable, and cites a case where pedunculated hypertrophy caused a rectal valve action. The effect of such on the production of calculi is specially mentioned, also the surgical treatment of the kidney in cases of albuminuria, and he intends to submit the matter to the British Medical Association under the form of two questions: 1. To what extent may kidney tension be responsible for permanent structural damage producing some forms of Bright's disease? 2. Under what circumstances, if any, is the removal of tension by surgical procedure expedient and justifiable? He thinks that there is perhaps a future for the surgery of this kind, and while he remarks on the possibility of toxic accidents, he believes that saturation of the urine with boric acid or other similar drugs before operation may easily serve to prevent them.

7. **Physical Examination of the Stomach.**—The methods of the physical examination of the stomach are described by Knapp, who includes under these specially percussion, inspection, palpation, and gastric distension and gastric transillumination.

8. **Infective Sigmoid Sinus Thrombosis.**—The symptoms, pathology and treatment of cerebral thrombosis from ear disease is described by Dufour, who pleads for the more careful lookout for symptoms pointing to this condition in cases of suppurative otitis media, and insists on the necessity of bearing in mind that the discharging ear is not a simple matter, but may at any time lead to serious and fatal complications.

10. **Emphysema of Eyelids.**—Douglass reports several cases showing that emphysema may occur in pathologic nasal conditions, all other causes being excluded, and asks whether it is a wound accident or results from pre-existing pathologic conditions. He considers that it is possible it may be the result of any wound; the surgeon can not be blamed for its occurrence. The reason why the upper lid is most affected is probably the fact that the wall of the orbit is as a rule perforated very near the middle, and that the air at once enters the space between the orbital periosteum and first fascia of the eyeball. It makes it way between the bony orbit and this fascia forward and backward, but finds less resistance forward than backward. The occurrence may be partially guarded against by avoiding the use of the curette as much as possible, and never amputating any part of the middle turbinate. While the condition has never been one of any seriousness, in his experience, it may be one from which great danger arises. Abscess, destruction of the eye, and possibly meningitis may follow from septic conditions in these operations.

11. **Cerebrospinal Meningitis.**—The varying views that have been held as to the part played by the diplococci of Weichselbaum, and that of Fraenkel, are noticed by Koplik, as also the epidemic and sporadic forms of the disease, and he analyzes the symptoms as reported in the literature and those of his own cases collectively. In this series lumbar puncture after the method of Quincke was performed at repeated intervals and, the bacteriologic, microscopic and macroscopic details studied. All the diplococci obtained corresponded closely to Weichselbaum's description, and the same was found in all the cases. The puncture was carried on with all the details of antisepsis; most of the patients were operated on three times and one more frequently. There was no routine, but each case was studied by itself and treated according to its needs. The indications for puncture were continuous headache with somnolence, delirium, repeated chills with sharp rise of temperature, increase in the rigidity of opisthotonus, or increasing or continued coma. If the immediate effects were favorable, the procedure was repeated on any exacerbation of the symptoms, but if improvement continued the patient was not further disturbed. No ill effects of the method were observed. In one patient the affects were so remarkable that the patient requested that the procedure be repeated. In one case the primary lumbar puncture had no perceptible effect and the second one only a very temporary one; a dry tap followed and, after a few days, the fourth puncture, in which 10 c.c. of turbid fluid were withdrawn, was followed by gradual improvement. The operation, rather strangely, seems to have no marked effects on the pulse or respiration; only in some cases is the pulse temporarily diminished in frequency. This is important because, when respiration ceases before the fatal issue, the heart still acting, lumbar puncture will not apparently aid us in re-establishing the respiratory function. Reviewing the results it can be safely said that lumbar puncture has relieved tension chiefly in diminution of pain and reduction of those symptoms which may be traced to toxic or mechanical pressure. Withdrawal of an appreciable amount of any fluid, from the spinal canal, which contains bacteria and their toxic products ought to be beneficial in the long run. The operation, Koplik thinks, will certainly come more and more into favor and take its place as a curative method. The five cases are reported in detail.

12.—See abstract in THE JOURNAL, XXXV, p. 1425.

13. **Vertigo.**—Thelberg believes that this symptom is brought about either by one or all of the following three causes: 1. Direct reflex irritation of the gastric branches of the pneumogastric nerve, and thence via the lower cervical ganglion to the vasomotors of the vertebral arteries which supply the internal ear. 2. By toxemia from amulon, and other ptomains, nicotin, alcohol, reabsorption of bile, the toxins of the infectious diseases, etc. 3. By direct pressure upon the heart through distension of the stomach by gases resulting principally from so-called amylaceous indigestion and "hyperchylis." While he has not had the good luck to meet with a single case of purely Meniere's disease, he does not doubt that it may occur. His contention is that actual disease of this kind is less frequent than the vertigo from irritation of the centers controlling equilibrium from gastro-intestinal disorders.

15. **Typhoid Fever.**—After describing the cases, the subjects of this article, Berg offers the following conclusions: 1. The existence of typhoid fever does not contraindicate an operation; for typhoid patients bear operation almost as well as do otherwise healthy individuals. 2. The repair of ruptured typhoidal ulcer attended with extravasation should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. 3. Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn. 4. Ex-

travasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

16. **Gonorrhea and Marriage.**—The question whether gonorrhea is curable and whether marriage should be advised, is answered by Weiss, who takes the stand that permission to marry should be given only when, after repeated and careful examination of slide specimens, exhaustive bacteriologic and microscopic investigation of the threads and of secretions of the prostate and seminal vesicles, done under the strictest rules and by the aid of Gram's method, the presence of gonococci can not be demonstrated.

17. **Aneurysm Excision.**—Two cases of femoral aneurysm treated by excision are reported by Fowler. One made a good recovery and in the other pulmonary congestion commencing at the end of the second day carried the patient off. He thinks that excision or ablation of the aneurysm will be the operation of choice in cases where the diseased condition of the vessel is fairly circumscribed and there are no inflammatory or other complications. This will include the majority of the cases of aneurysm of the extremities, and aneurysm involving communication with the corresponding vein is a positive indication for the operation.

18. **Prostatic Hypertrophy.**—Hayden thinks that the palliative treatment in cases of prostatic hypertrophy should be tried before operation is attempted, and this treatment consists in keeping the urine at a normally acid reaction, giving rectal injections of hot salt solution, noting the condition of the residual urine, corresponding medication of the bladder and urethra, attention to hemorrhoids, stricture, etc. If after this treatment operation is required, he favors prostatectomy, and does not recommend castration, vasectomy, or ligation of the arteries.

20. **Talma-Morison Operation.**—Jelks reports cases of dropsy involving cirrhosis of the liver, treated by the Talma-Morison operation with success. He thinks every patient suffering from ascites as a result of cirrhosis of the liver should be subjected to this operation.

22. **Meat Ration in the Tropics.**—The varying views that have been uttered in regard to the army ration in the tropics are first noticed, and Egan finds, from the literature and his own observations, that well-to-do individuals in warm countries eat fully as much meat and crave it as much as in temperate climates. He thinks that the abstinence from sufficient amount of proteids is the cause of the prevalence of anemia of the poor classes in the tropics. Something should be said in regard to the difficulties of keeping meat fresh in hot climates, and eating it too soon after killing, which is perhaps responsible for some disease among soldiers.

23. **Bubonic Plague.**—The extent of the plague in Manila is described briefly by Curry. There have been found in that city 225 cases with 167 deaths, which equals a mortality of 74 per cent. The native death-rate was nearly 81 per cent., while that of the Chinese was not over 72 per cent. He is at a loss to account for the higher mortality among the natives. There were but two deaths among Americans, both employed in the same place and probably subject to the same infection. The plague bacillus did not appear in the blood until late in the disease, except in the rapid fulminating type. Blood cultures and agglutination tests are unsatisfactory, therefore, for early diagnosis. The bacilli do occur early in the glands, and the most satisfactory method of diagnosis is aspirating one of the recently swollen glands. The objection to this, that there might be danger of causing general infection by injury to the blood-vessels, is, he thinks, more theoretical than practical. The right femoral and inguinal glands are usually the first to enlarge, and there is the possibility of introduction of the plague through the prevalent dhobie itch, and as most people are right-handed the tendency to scratch on that side may possibly cause this predominence. Almost all cases show evidence of flea and mosquito bites, but Curry does not think it probable that the mosquito plays any great part in the spread of the disease.

26. **Intestinal Vegetations.**—Tunison describes a kind of growth which has passed from the intestines, apparently resembling some vegetable organism, which he suggests is possibly due to the use of fruit, though the case reported continued after complete abstinence from such food. The patient was treated with essence of pepsin, and essence of pancreas in frequent doses, with a complete and permanent cure. In the discussion in the Cincinnati Academy of Medicine, Dr. W. E. Shaw identified these forms with banana fibers. They are not noticed in the fresh fruit as they are there perfectly transparent, but the changes that take place in the bowels make them more visible.

27. **Occupations and Rectal Diseases.**—Monroe found that certain occupations are specially liable to produce rectal trouble, hemorrhoids, etc. Clerks in stores are frequent sufferers from hemorrhoids, which he believes are due to irregular habits of defecation, etc., and railway engineers are subject to the same liabilities from the same conditions, as are also commercial travelers.

29. See abstract in THE JOURNAL, XXXV, p. 1048.

30.—Ibid., XXXV, p. 52.

37. **Intestinal Indigestion (Dystrypsia Intestinalis.)**—Various types of this anomaly are enumerated by Hemmeter: 1. Those connected with pathologic anatomical alterations in the structures of the intestinal walls, lymphatics, blood-vessels, and nerves. 2. Absence of deficiency of intestinal digestive secretions, principally of bile and pancreatic juice and also succus entericus. He agrees with Rachford in his main conclusion that a small quantity of free HCl has little or no retarding influence, but that large quantities materially impair the diastatic action of pancreatic juices. The chemical processes in the duodenum are extremely complicated and easily disturbed. Secretion of bile, pancreatic and gastric juice may vary abnormally and throw out of balance the finely adjusted chemical transformations, giving rise to intestinal dyspepsia, which will only be elucidated by future chemical physiologic investigation. Other effects are described, with also the antizymotic influences of the bile secretion and disturbances in the secretion of pancreatic juices, succorrhea pancreatica, hypochylia, and achylia pancreatica, the alkalescence of the pancreatic juice, and the general effects produced by its suppression. 3. Intestinal indigestion due to qualitative and quantitative irregularity of diet which may be too excessive; unhealthfully mixed, the food may be partially fermented or putrefied. He thinks also that not enough attention is given to harm caused by drugs, some of which actually produce the trouble which they are intended to relieve. 4. Intestinal indigestion due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry, and he insists on the importance of analysis of the gastric contents in cases of intestinal dyspepsia. 6. Neurasthenia intestinalis. 7. Intestinal indigestion due to irritants coming from the blood. 8. That due to worms. 9. That due to hyper or hypo peristalsis. The paper ends with a series of formulas used by the author in special symptoms in different forms of this condition.

38. **Cutting or Crushing Urinary Calculi.**—McGuire reviews the opinions of various authors in regard to the preferable operation for vesical calculi, and gives his views as to the advantages and disadvantages of each. He does not condemn the crushing operation, which he believes has its advantages in certain cases, but he thinks the operation is overdone in an attempt to substitute it for cutting operations in cases not suited to it. Lithotomy, he holds, should be the operation most frequently employed, and lithotrity reserved for a few carefully selected cases.

38. **Artificial Abscesses.**—Van Telburg-Hofman suggests the formation of artificial abscesses to relieve certain conditions. He reports cases of apparent general pyemia or septicemia in which this method was performed by the injection of spirits of turpentine under the skin, which seemed to be of decided benefit. He suggests its use in cases of puerperal fever where other methods fail.

40. **Uterine Reflexes.**—A possible danger of operating on the uterus is here suggested, and a case reported where there

seemed to be sudden collapse and heart failure, which Upshur thinks must be referred to reflex action from the uterus. Even the simplest operative procedure on the uterine cavity, he believes, may sometimes unexpectedly have fatal results.

45.—This article has appeared elsewhere. See THE JOURNAL of March 16, 93, p. 770.

46.—See abstract in THE JOURNAL of January 12, p. 128.

49. **Head-Knocking.**—Having been interested in the statement of Dr. Coolman, of the Children's Hospital of London, that head-knocking is a common symptom in young rhachitics, Aldrich has looked for it in this country, but noticed it only twice. The literature is very silent in regard to it. In one case reported the child was a marked rhachitic with rosary, flattening of the sides of the chest, enlarged epiphyses, dorsal pad and typical facies, and it seemed to delight in knocking its head against the cradle rail. The appearances were those of severe abuse, and he comments on the medicolegal importance of the subject. It should be distinguished from head-nodding and head-rotation usually associated with nystagmus, which is occasionally met with in young rhachitics and described by Romberg and Henoch. The symptom is a curious one: that the child should enjoy such abuse is hardly comprehensible.

53.—See abstract in THE JOURNAL of January 26, p. 273.

55. **Procidentia Uteri.**—After noticing the different operations, Emmet says that any method which does not forcibly antevert the uterus and prove capable of holding it there is an insufficient operation. He preferably places the suture on the posterior aspect of the organ just below the crown, to make this anteversion perfect and permanent. Only one other method short of hysterectomy is capable of giving the best results, and that is the one originally suggested by Sänger, of making an incision in the anterior fornix, pushing away the bladder and making the fundus fast to the vaginal wall. Schücking then devised his operation of vagino-fixation by passing a curved needle up the uterine canal through the anterior wall of the uterus and through the vagina, passing a suture and binding the parts together. This necessarily was confined to the lower portion of the wall and therefore insufficient. Mackenrodt carried out the idea better by separating the bladder and uterus extensively and bringing the fundus completely forward and then stitching the anterior aspect of the uterus to the vaginal wall. Kustner and Dührssen went a step further and opened the peritoneal cavity at its junction with the bladder, drawing down the adnexa for inspection. Wertheim and Vineberg drew down the round ligaments and made them fast to the vaginal wall, and Vineberg thinks this an admirable method in cases of prolapse in the first and second degrees, but believes it is contraindicated in complete procidentia where there is veritable hernia of all pelvic organs. Emmet is inclined to try it in such cases, counting much on the subsequent plastic work on the vaginal walls and perineum. Finally, hysterectomy is a last resort, the partial form from above being the better, since the stump of the cervix or vagina may be suspended by being sewed to the shortened broad ligaments.

64.—See abstract in THE JOURNAL, XXXV, p. 1050.

65. **Circumcision.**—Mark pleads for the more general practice of this operation, giving his reasons for the views expressed. He thinks that it can be best performed at about 3 years of age; there is rarely occasion for it earlier. He of late has removed a wedge-shaped piece from the frenum, to obliterate the folds which remain after ordinary operation has been performed, and this removes another lurking-place for infectious organisms.

66. **Nasopharyngeal Disorders of the Adult.**—Among those enumerated are overseeretion of the mucus, which may be due to obstruction within the nasal passages and relieved by operation. It may be caused by shrunken adenoid growths. The most hopeless cases are those where general hyperemia of the nasopharynx is the only cause to be detected. Another abnormality mentioned by Dabney is interference with deglutition, which he has found caused by postnasal soft polypi. The acute pain in swallowing may be due to ulceration of the upper surface of the soft palate, generally specific. The characteristic of this is that when at rest the pain is far less than that of tuberculosis or carcinoma. When nasal obstruction develops in the adult it is often due to postnasal polypi and a long train of consequences may follow, such as nausea, etc. Few operations give more brilliant results in the way of complete relief than the removal of one of these. Deafness, tinnitus, occasional pain and over-resonance of the patient's voice are also noted, as well as over-secretion of mucus necessitating frequent clearing of the throat and thus interfering with speech. He describes his method of examination, by using White's palate retractor, which he has found of the greatest service. Having cleansed the nasopharynx, a 5 or 10 per cent solution of cocain is applied to the posterior and upper surfaces of the soft palate, soaked in a little cotton on a probe. After a few minutes the retractor is pushed around the palate and the patient directed to take a deep breath with the lips—not the teeth—closed, and so doing the soft palate is relaxed and brought forward and the retractor may be fixed on the upper lip. The patient should be instructed to breathe naturally as the tongue is depressed. Posterior rhinoscopy will quickly reveal the presence of any growths, hyperemia or ulceration. In a few cases tying the palate forward with a catheter brought through the nose and out through the mouth has been found a more satisfactory method, but the retractor has generally been less uncomfortable and more convenient. Jarvis's snare is the instrument most useful to him in removal of polypi of the posterior nasal soft palate. In adenoid tissue in the adult the indication for its removal is more often over-secretion of mucus and disease of the ears than nasal obstruction, and complete removal is more necessary. The forceps and curette may there be used, but the former is more convenient. For syphilitic ulcer of the soft palate he uses nitrate of silver applied on a mop, 30 to 60 gr. to the ounce-solution, after cleansing.

67. **Dangerous Glassware.**—Hoskins calls attention to the dangers of swallowing fragments of glass from vessels containing food, e. g., preserve jars, etc. For a remedy he suggests the use of annealed-edge glassware, and suggests inspection for nicks, etc., in every case where these utensils are used.

74. **Exophthalmic Goiter.**—Haight believes that exophthalmic goiter is due to hyperthyroidization and measures instituted to reduce the goiter reduce the secretion and benefit the condition. His attention was called to the collodion treatment, several years ago, in treating a case of Hodgkin's disease. It acts as a sort of compressor, reducing size and secretory function and shutting off the blood-supply. He has employed it in six cases with enlargement of the thyroid, one of which he reports. The collodion must be perfectly fresh. Rapid evaporation can be secured by using 20 to 30 pounds of air-pressure and increasing the compression fully one-third. The patient's head should be put in an easy position, with relaxed muscles, and collodion be repeatedly applied to keep up the pressure at intervals of from two to five days.

77. **Interstitial Gingivitis.**—Talbot holds that, aside from local causes, intestinal gingivitis may be due to auto-intoxication or blood poisoning. The former occurs during pregnancy and in change of climate, as is shown by American soldiers in the tropics and engineers and workmen in the Jungfrau Railway, 2600 meters above the sea-level. The poison due to autointoxication of drugs circulates in the capillaries, setting up inflammation. This extends through the alveolar process and gums. Pus infection frequently takes place and pus passing into the stomach produces indigestion. Treatment consists in the patient taking eight or more glasses of pure water each day, using a stiff tooth-brush three times a day and the employment of proper mouth-washes. Tincture of iodin should be locally employed every other day, until the parts are restored to health.

79. **New Type of Continued Fever.**—Happel describes a type of fever met with in the South, which can not be placed either in the malaria, typhoid, or typhomalarial group. It may occur at any time of the year, is most common in late

summer, early fall or winter, and is rare in the spring. It may commence with a chill followed by a high temperature, subsiding to about 102 to 104, rising two or three times in twenty-four hours and finally becoming intermittent. At this time there may be profuse sweats, no delirium in any case and the dull listless look of typhoid is wanting as well as the anorexia. The tongue may have an almost normal appearance. There is no tendency to diarrhea; purgatives are often required. There is no abdominal tenderness, frequently an inverse ratio between the pulse and temperature, but as a rule the pulse is not far from normal. In cases where the rapid pulse is found with low temperature, the experienced practitioner feels that he needs to watch the case. In a few cases there is subnormal pulse and temperature, and these are apt to be lingering ones. The facial appearance is entirely different from typhoid, the digestion is only slightly impaired, and there are no special symptoms on the part of the liver and the spleen and negative symptoms in the respiratory system. One attack does not prevent another, but rather predisposes. Quinin only affects the cases unfavorably; most have a tendency to get well. The diazo reaction and the Widal test have failed. Happel concludes his article with a protest against too much dependence on laboratory methods at the expense of clinical study.

80.—See abstract in THE JOURNAL of January 12, p. 128.

81.—Ibid.

82.—Ibid.

91. **Normal Salt Solution in Typhoid.**—The uses of hydrotherapy in private practice are not so great as in hospitals, unless a skilled nurse is at hand, but it appears to Pfromm that if the kidneys are properly stimulated to get rid of the toxins much good may be done. He has, therefore, resorted to the use of normal salt solution by rectal injection, beginning early in the disease and as soon as the urine has become diminished, using 1 pint per rectum per day until the quantity of the urine is normal. He reports a case and emphasizes the following points: Beginning of treatment early and examination of urine daily, since it may become highly alkaline and produce inflammation or irritation, and the stimulation of the cardiovascular system and the diminished tendency to complications.

92. **Heroin.**—Stewart has used heroin in various conditions, and notes that alkalines and alkaline mixtures will precipitate heroin from solution, which should be remembered. If given during or immediately after meals, the free hydrochloric acid in the stomach will cause it to be more rapidly converted and assimilated. The doses, he thinks, have often been too large: 1/24 to 1/12 gr. for adults is usually sufficient and 1/250 to 1/50 for children under 5 years of age. Its results in neuralgia and muscular rheumatism have been negative, and in whooping-cough it seems to relieve the paroxysm, but does not affect the duration of the disease. He thinks the drug slows respiration, and makes it stronger and deeper, steadies and strengthens the heart-action, is sedative and slightly anodyne; it is not cumulative, does not tend to produce habit, is not a hypnotic, lessens night sweats and is antispasmodic to a considerable degree. It should not be put in the hands of patients as it is liable to be over used.

96. **Common Anomalies of the Colon.**—Those common anomalies of the colon, described by Babcock, are dilatation of the omega loop and descending colon, elongation and displacement of the sigmoid flexure, the sigmoid loop touching the lower border of the left kidney, exaggerated and displaced sigmoid, V-shaped course of the transverse colon in different degrees and otherwise anomalous course of the same.

108. **Syphilis.**—Nine questions were asked of a number of prominent surgeons: 1, as to the frequency of syphilis—this, according to different observers, varies from 10 per cent (Lydston, Mathews and others) to 1/15 of 1 per cent. (Guitèras); 2, as regards specific treatment prior to secondary symptoms, the majority favor it, though some object; 3, as to the method of treatment of a local sore, in which excision is usually rejected and cleanliness with mild applications are advised; 4, the curability of syphilis, which is generally accepted, some considering it curable in 90 to 95 per cent.—one or two hold that it is always doubtful; 5, advice as regards marriage—the majority consider marriage permissible after a sufficient period of time and thorough treatment; 6, the immunity given by one attack, which is recognized generally as the rule; 7, the danger of transmission of syphilis to offspring by parents who have been properly treated—this is not considered a special danger by the majority, though some hold that it may occur; 8, whether inherited syphilis renders immune from primary disease, the replies varying, some answering positively in the affirmative, and others, equally so in the negative, while still others are doubtful; 9, the plan of treatment, of which the majority prefer mercurial medication first and the iodids in the later manifestations. Hot baths and electric treatment are insisted on by some of the respondents.

118. **Congenital Shoulder Dislocations.**—The causes and description of symptoms of this deformity are enumerated. The conclusions drawn by Marston are in substance as follows: 1. It is of the utmost importance to distinguish between dislocation and true obstetrical paralysis. 2. The treatment of the former is immediate reduction by manipulation, if possible, otherwise by operation. 3. Every infant should be carefully examined at birth, for then reduction is most easy. 4. From the fact that, in three of Dr. Phelps's cases, fracture of the glenoid cavity was found and in nearly all the history showed difficult labor, the author is led to believe that these cases are not of paralytic origin, but are due to traction of the axilla by the finger or vectis. Paralysis may be coincident but not a primary factor. 5. The prognosis of the operative treatment is excellent; the earlier the operation, the more hopeful. 6. Like congenital dislocation of the hip, these cases are little benefited by mechanical treatment.

122. **Salophen.**—From a study of the literature and personal experience, Hill is convinced of the intrinsic value of salophen in properly selected cases, viz., in those neuralgic and inflammatory states due to rheumatic poisoning. It is specially effective and preferable in young and weakly patients. The combination in a single definite chemical product of a safe and efficient antipyretic, antineuralgic and antirheumatic makes salophen of special service in many obscure painful states that can be diagnosed with certainty only by therapeutic tests.

131. **Local Anesthesia.**—Several cases of the use of eucain and cocain in local anesthesia are described by Terrett, who concludes his paper with the following summary: 1. Cocain and eucain are undeniably the most potent, efficacious and reliable local anesthetics now in general use. 2. The agents in a menstruum of simple sterile water at ordinary temperature, and when freshly prepared, give entire satisfaction, and, when injected in the proper manner, can be made to engender the most profound and complete anesthesia. 3. Cocain and eucain must infallibly supplant a general anesthetic, whenever this latter is contraindicated by some organic lesion, whereby its use would be a menace and directly endanger the patient's life. 4. The combined infiltration and regional method is of unquestionable value, and its practical usefulness confined especially to those parts where the nerve distribution is easily accessible—notably the extremities and ribs. 5. The entire absence of any untoward or unfavorable symptom, as a result of this procedure, argues most forcibly and cogently for its ulterior recognition and more general use.

132. **Mitral Stenosis.**—The various theories of hypertrophy of the left ventricle occurring in stenosis of the mitral valves are mentioned by Noto, who offers one of his own. He rejects those of the precedent mitral insufficiency, or the co-existence of aortic stenosis and the theory of Struempell that hypertrophy is the result of compensation due to hypertrophy of the left auricle and right ventricle. His own theory is as follows: When stenosis of the mitrals is beginning, the left ventricle must react in its contractions as well in force as in number, and therefore becomes hypertrophied. This is apt to occur in the first period of the disease in every case of mitral stenosis, but as this is a chronic affection it may last for years when complications do not interfere, and after a certain period the blood given to the left ventricle is not sufficient to nourish it for the

important work. There is a period of regression, and from hypertrophy there must come atrophy. Between the two extremes there is a condition when the ventricle is nearly at its normal size, hence we have in these cases the normal left ventricle not absolutely physiologic. This agrees with Erb's view as to general dystrophies, that hypertrophy constitutes the first period of the alteration and atrophy the later stage.

## FOREIGN.

### British Medical Journal, March 16.

**Causation of Carcinomatous and other New Growths.** J. GEORGE ADAMI.—The author's arguments are summarized as follows: "1. The catabolic activities of the cell are of two orders: those determining the relationship of the cell with the exterior, and those that are vegetative determining the continued existence and multiplication of the cell; the former excited by stimuli of various orders from without, the latter only indirectly so excited, being more directly called into play by conditions obtaining within the cell. 2. The controlling agency in at least the higher catabolic activities of the cell, both 'functional' and 'vegetative,' is the nucleus, and nuclear activity is accompanied by breaking down and discharge, or by rearrangement of the nuclear molecules. 3. The changes which occur in the nucleus during the active performance of the specific functions of the cell are of a character so different from those observed during the process of cell division that proliferation and active performance of specific function, the one precluding the other, are obviously to a large extent incompatible. The cell engaged in the active performance of function in response to external stimulation cannot simultaneously proliferate. 4. It follows, therefore, that active cell division, and cell proliferation occur only in conditions in which the cell cannot fully utilize the assimilated material (and the energy stored up in the assimilation of that material) in the performance of its specific functions. 5. Such conditions are to be met with where the tensions acting on the cell are reduced and certain energies which before were necessary to counteract opposing forces are freed and become thus capable of diversion from their purpose, or again, where stimulation from without results in increased assimilation and storage of nuclear and cell material which now from any condition can not be utilized in the performance of specific function. 6. In either case the cells will continue to proliferate so long as the primary modification of physical relationships or the primary stimulus continues to act, so long as there is adequate nutriment and so long as the tension exerted upon the cells do not become excessive. 7. Provided that these conditions are observed, the greater the amount of cell proliferation, the greater the tendency for certain at least of the newly formed cells to be projected from the relations proper to cells of the tissue giving them origin, the less will be the opportunity for such cells to carry on their primordial function; the greater the liability to proliferation. 8. The longer the cells are diverted from their proper extrinsic functions to proliferative activity, the greater the momentum acquired by them to continue performing the proliferative act until the functional activities become largely suspended and the 'habit of growth' is set up. 9. When this habit of growth is inaugurated, the cells continue to grow and multiply in the complete absence of those conditions which initiated their proliferation in the first place, and we obtain that purposeless functionless cell growth characteristic of the true tumor. 10. According to the stage of cell development in which this habit becomes impressed upon the cell, so do we have various grades of benign and malignant tumor-formation." From these points he deduces the following conclusions: "Whatever the origin, therefore, of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, so do we get the various grades of tumor formation from the most benign to the most malignant." The application of this theory to the possible microbic origin of malignant tumors is the subject of some remarks. It applies itself to such an origin in the following way: According to the theory, microbes and their products may be one of the causes originally localizing cell proliferation in the first place, provided that they bring about stimulation rather than irritation, or such mild irritation that the cells are stimulated to increase the metabolism, which does not go on to exhaustion and breaking down of their protoplasm, and provided also that the microbes and their products act sufficiently long to set up the habit of growth. It is quite conceivable that such microbes might continue to exist in tumors they originated, exerting a cumulative effect. The more the cells departed from the type the greater the effect of these microbes and their products in producing rapid proliferation and malignant tissue. This continuance in persistence of microbic action, however, is not to be regarded as essential, and the fact that we doubt as to whether the bodies found in the tumors are real parasites and the failure of their reproduction of similar growths, point to the view that if microbes originate malignant tumors they do not necessarily continue in them in the living state. It is quite possible that certain specific forms of microbic growth originate certain forms of tumor growth and, like other pathogenic microbes, they may tend to attack such tissues under special conditions. If it be proven that malignant growths are specially common in certain localities, then such microbic origin becomes eminently probable. Adami does not see any immediate prospect of arresting the development of existing carcinoma by the discovery of the microbe. The most that we can expect is discovery and employment of means to arrest or destroy the continuous local cells that have taken on this functionless growth and, on the other hand, to study the habits of the germs outside of the body to exterminate them, as we are talking of doing with mosquitoes in malarial regions. The greatest benefit to the patient and the greatest triumph will be, for some years to come, the successful recognition and removal of malignant tumors at the earliest possible date, and of benign tumors before they take on the malignant growth.

**Occurrence of Pyrexia in Carcinoma and Other Diseases of the Liver, and in Cases of Gallstone.** C. O. HAWTHORNE.—The difficulties of the recognition of carcinomatous growths from other conditions of the liver are discussed by Hawthorne, at some length, and he concludes that the combination of jaundice and intermittent and hepatic enlargement may need careful consideration before deciding for gall-stones on the one hand or malignant disease on the other. In abscess of the liver various febrile symptoms are to be expected, but are not always present. Similar febrile attacks with jaundice and pain have been observed in other diseases than carcinoma, gall-stones, and abscess, and it seems also that cirrhosis of the liver, even of the atrophic or multilobular type, may cause considerable and indefinitely prolonged pyrexia in some way unexplained.

**Digestion Leucocytosis in Carcinoma of the Stomach.** CARSTAIRS DOUGLAS.—The author has investigated the leucocyte count in connection with the diagnosis of carcinoma, and finds that digestion leucocytosis is a very poor criterion to rely on in the diagnosis of the gastric affection, since it is only positive in about 54 per cent. The latest monograph on the disease by Osler and Macrae, agrees with his results in finding that reliance can not be placed on this method. It seems probable, he thinks, that the true statement of the case is as Marchetti recently put it, that digestion leucocytosis essentially depends on the digestive and absorptive powers of the stomach, and that it may or may not occur in carcinoma of that organ according to the degree of impairment of its function. He considers the presence of the phenomenon of more value in excluding carcinoma than its absence in proving its existence.

### The Lancet, March 16.

**Treatment of Tubercular Peritonitis.** I. BURNEY YEO.—Three cases of tuberculous peritonitis are reported by Yeo, all in the acute form and in young persons, where the principal treatment consisted in rubbing in of iodin ointment in the abdominal surfaces, and the administration by the mouth of pills of iodoform and creosote. The success was remarkable, but he thinks that the same treatment might fail in chronic cases of the dry adhesive type and in older persons. His idea as to the action of iodoform is that it probably enters the

blood and, if regularly applied, is eliminated in the secretions; including in the secretions the serous cavities, and as these do not pass out of the body as the secretions of the kidney, they must in time become charged with iodin compounds and act as an antitoxin to tubercle toxins or a bactericide to the bacillus. We have proof of the rapidity with which iodin is absorbed by the skin, by the quickness with which it appears in the urine. The idea of iodin being an antitoxin to tubercle is not a new one, and he mentions two Italian physicians who have reported cases of tubercular peritonitis cured by the injection of a solution of iodin, and a case of tubercular meningitis reported by Nilsson, cured by rubbing iodin ointment, strength 1 in 10, on the shaved scalp three or four times a day. He suggests, in conclusion, that we should bear in mind that antitoxins are not limited to animal products, and should not neglect the study of those which may be found in the mineral and vegetable world. They are not all serums or animal extracts. The oldest and surest ones we possess are mercury and quinin, and their effects are better known, and more certain and reliable than any at present known to us.

Annales de Gyn. et D'Obstetrique (Paris), January.

**Connection Between the Mental and Functional Development of the American Girl.** G. J. ENGELMANN.—The essential factors that influence the establishment of puberty are nervous stimuli and mental development, according to Engelmann. He has collected records of the age at the first menstruation in 12,000 cases. His statistics are gathered from all parts of the United States, but his own observations were made mostly in the Southwest, those in New York by Emmet and in Boston by Chadwick, supplemented by data published by the Association of Collegiate Alumnæ and others. Nervous stimuli and mental activity are more intense in proportion to age, at least, in America, and consequently the first menstruation occurs earlier in American girls and earliest of all among college girls. The average age at the time of the first menstruation in this class is 13.52 years (2060 cases); in students in normal schools, 13.8 years (1342); in clerks 14 years (800); in the better classes, 14.23 years (3027); and in working girls, 14.27 years (4818). The figures for England show a higher age in each class, although the difference is slight; but in Germany the average for working girls is 16.8 years; for the middle classes, 15.5 years, and for the better classes 14.1 years, according to Krieger's statistics. In France, De Boismont found the average for the laboring classes 14.84 years; for the middle classes, 14.5 years, and for the better classes, 13.6 years. The average in Denmark and Russia approximates that of Germany for the laboring class, but in the better classes the average was 14.25 and 14.5 years respectively, in 6371 cases collected.

**Blood Letting in Nurslings.** M. DELESTRE.—Bacteriologic study of the blood of moribund nurslings revealed the streptococcus in 8 of the 22 positive tests on the 32 infants, and the staphylococcus and the colon bacillus each 5 times. Nineteen of the children weighed less than 2000 gm., and in these he found the streptococcus in 6 and the colon bacillus in 5. He was impressed with the fact that the withdrawing of the blood—2 c.c.—for the test was followed by a marked improvement in each case, and this experience suggested that venesection combined with infusion of salt solution might be useful in severe cases of infection in nurslings. He now reports that these premises have proved correct and that he has witnessed actual resurrections from this measure in these severe septicemias, especially in prematurely-born children, weighing from 1800 to 2000 gm. He draws 2 or 3 c.c. at a time, or even as much as 15 to 20 c.c., immediately substituting 20 to 30 c.c. of artificial serum. The effect is evidently a stimulating of the blood and lymph-forming organs, and the insufficiency of these organs is probably the reason why infections become generalized in these little beings with such facility. He remarks that his success with this lavage of the blood during the last year, at the Enfants-Assistés hospital, has been "veritably astonishing." Relative improvement was invariably attained even in the patients who succumbed later.

February.

**Wedge Excision for Displacements of the Uterus.** MAUCLAIRE.—Certain forms of displacement are best treated by a longitudinal, superficial wedge-shaped excision of the uterine tissue, tapering to a point above and below, the excised portion resembling a natural segment of an orange. The organ thus operated on, front and back, takes and maintains its normal position, although supplementary measures may be necessary as indicated by the adjoining ligaments, etc.

Annales des Mal. de l'Oreille, Etc. (Paris), January.

**Chromic Acid for Malignant Tumors of the Upper Air-Passages.** H. DU FOUGERAY.—Cauterizing with a .5 per cent. solution of chromic acid, at first every other day, has proved a valuable measure in Fougeray's experience with epitheliomata in the pharynx. He reports three cases thus treated. In one observed two years ago, the fungus growth in the pharynx appeared three years after excision of a malignant tumor of the breast. He first curetted and then cauterized with the chromic acid. Three months later not a trace of the epithelioma was left and the patient has since been in good health.

**Fibrosarcoma in the Sphenoidal Sinus.** G. FERRERI.—If pus be found in the narrow summit of the nasal fossa and the roof of the nasopharynx, if a projecting tumor be visible and if the probe introduced through the middle turbinate bone reach the bone to a depth of 8 cm. from the nose, there is reason to assume a lesion in the sphenoidal sinus. Sphenoidal sinusitis should be diagnosed and operated on as promptly as possible to forestall, intracranial complications, which are inevitably fatal. In a case described, this fatal termination was postponed for 1½ years by the extirpation of the tumor, which has been gradually developing for three years.

**Treatment of Chronic Otorrhea Through the Eustachian Tube.** P. J. MINK.—The prolongation of the axis of the Eustachian tube passes along the entire length of the upper portion of the tympanum and antrum, without obstruction. Mink calls attention also to the fact that a strong current of air introduced into the antrum along this route, dislodges pathologic products more successfully than is accomplished by fluid and that it penetrates to the remotest crevices. The products can then be further loosened and sterilized with peroxid of hydrogen. In case the ulceration has not invaded the bone, astringent and modifying treatment is sufficient, but if the bone is involved, acid is necessary to dissolve the necrosed particles. As long as any remain, hyperemia persists in the adjoining parts and all attempts to suppress the inflammation fail. Trichloracetic acid is especially useful for this purpose on account of its solvent action on lime salts.

February.

**Nail in Bronchus.** J. GAREL.—A nail more than two inches long remained in the right bronchus of a young child for two months, without causing very serious disturbance. The parents suspected its presence and had a radiogram taken and sent to Garel. He diagnosed the case without seeing the patient, and when the latter arrived, easily extracted the foreign body with a magnet.

Annales des Mal. des Org. Gen.-Urin. (Paris), January.

**Operative Cure of Renal Tuberculosis.** P. DELBET.—The case described has been watched with interest as it was first reported as having been cured by nephrotomy alone. The patient was a man of 62 and at the operation five liters of fluid were evacuated and 300 c.c. of debris removed by curettage. The patient was apparently cured except for a small fistula, but fifteen months later symptoms recurred, necessitating nephrectomy from which he recovered in a month, and now, a year later, is apparently in perfect health.

Bulletin de l'Academie de Med. (Paris), March 5.

**Chaulmoogra Oil in Leprosy.**—Hallopeau remarked in regard to the alleged complete cure of a case of leprosy by chaulmoogra oil, reported by Tourtoulis-Bey, that the oil as received in the West is frequently adulterated with butter, fat and linseed, castor, sesame and cocoanut oils. Consequently control tests are not reliable. In the case reported the patient

was injected with 5 gm. of the oil, under the skin of the arm or leg, about twenty times a month for five years, with occasional suspension. He has thus received 2720 gm. of sterilized oil. The injections were not particularly painful and the swelling at the spot always vanished within twenty-four hours. In his personal experience Hallopeau has witnessed a number of cases so improved by the oil, administered by the mouth, that they are practically cured. One of Besnier's patients, whose case was so typical that a cast of the lesions is preserved in the Saint-Louis museum, is now improved to such an extent that he has resumed his usual life, and no one would suspect that he had had leprosy. Another severe case was exhibited at the International Medical Congress, in which the cure has seemed permanent during the eighteen months since the chaulmoogra oil was administered in large doses. Even when the disease continues under this treatment it assumes a much milder form. Hallopeau is now experimenting with its administration by the rectum emulsified with milk. Du Castel's experience with four patients has been less favorable. He stated that the subcutaneous injection of 5 gm. is a painful procedure and in sensitive patients may entail inflammatory infiltration. In one case the injection induced fat-embolism of the lungs and in another a tendency to syncope. The tuberculo-ulcerative forms appear as a rule to react more favorably to this treatment than the nervous variety.

**Medication to Reduce Arterial Pressure.** HUCHARD.—Vaso-dilating, pressure-reducing medication is extremely important, not only in diseases of the heart and vascular system, but in other morbid conditions in which high arterial pressure is a menace. Among these are the premonitory stage of arteriosclerosis or "presclerosis," in which the high arterial pressure is the cause and not always the effect of the sclerosis; in confirmed arteriosclerosis; in coronary angina pectoris and in pain in the heart from distension of the organ owing to peripheral vaso-constriction; in uricemia, as uric acid has a peripheral vaso-constricting action which explains the frequency of visceral congestions; in gout, which is to the arteries what rheumatism is to the heart; in tobacco intoxication, which entails vaso-constriction and consecutive arterial hypertension; in interstitial nephritis, one of the affections which increase the arterial tension to the highest point, whence the frequency of rupture of the blood-vessels and cerebral hemorrhages occur; in local syncope of the extremities; in Stokes-Adams' disease; in aneurysm and finally in the condition resulting from an excessive meat diet. The latter is one of the most frequent causes of arteriosclerosis and arterial cardiopathy. Owing to its richness in vaso-constricting toxins, the alimentary regime of our day is a constant or repeated alimentary poisoning. This is not the end of the list but it is enough to show the numerous indications and applications of "hypotensive" medication. In these important heart affections, superposed on an arterial cardiopathy, which commence with an intoxication and lead to an almost permanent condition of vasoconstriction, treatment should not be addressed to the central heart which is already more or less affected in its contractile power, but to the entire arterial system. Contraction of the arteries should be prevented in order to relieve and facilitate the work of the heart. Arterial hypertension is a direct menace in case of an aneurysm, as it hinders coagulation. The suprarenal capsules secrete a substance that has a marked vaso-constricting action. Huchard has witnessed a sudden increase in the size of an aneurysm, with threatened rupture, in a patient who had been taking suprarenal extract for two weeks. In treating an aneurysm the coagulation of the blood is not the only aim, the sac itself should be influenced and the distention, which is maintained by arterial hypertension should be reduced by appropriate measures, including a milk-vegetable diet and vaso-dilating and pressure-reducing medication. When the case requires the immediate lowering of the arterial tension, as in angina pectoris, this can be accomplished by the inhalation of amyl nitrite. Propyl and butyl nitrites possess the same properties but have not yet been sufficiently tested. Sweet spirits of nitre deserve more general use as a vaso-dilating and diuretic measure. Potassium nitrate has also a vaso-dilating and pressure-reducing action, besides a diuretic effect. It probably becomes transformed into a nitrite in the organism and almost all the nitrites are diuretics as they substitute vaso-dilation for constriction, which is the dominant mechanism of diuretic medication. Glycerin trinitrate has a similar action, but its effect is less prompt, and lasts one and a half hours, and it diminishes rapidly after the maximum is past. It causes severe headache in certain patients. These inconveniences are obviated with tetranitrate of erythrol or tetranitrol, which maintains the arterial pressure nearly at the physiologic point without intermission. Huchard's experience with it during the last four years fully confirms the recommendations by Lauder Brunton and other writers. The effect is felt in fifteen to thirty minutes and continues for three to five hours in most cases, although occasionally it subsides in one and a half to two hours. Huchard prescribes one to three, or six to eight, 1 cg. tablets during the twenty-four hours, beginning with three or four drops of a 1 per cent. alcohol solution of trinitrin in urgent cases. He has administered it to 120 patients and found symptoms of intolerance extremely rare, even the frontal headache noted with glycerin trinitrate. The hexanitrate of mannitol, he adds, is another member of this group that will repay study.

Bulletin de la Soc. de Pharmacie de Bordeaux, February.

**Improved Starch Paper for the Iodin Test.** G. DENNIGÉS.—Iodin is being used more and more as a test of the functional and metabolic processes going on in the organism. For instance, the absorbing power of the stomach is determined by ingestion—fasting—of 10 cg. of potassium iodid in a gelatin capsule. The saliva gives the iodin reaction in ten minutes under normal conditions. A number of German writers recently called attention to the value of iodipin as a test of the motility of the stomach, etc. This substance is a stable combination of oil of sesame and iodin. It is not affected by the buccal or gastric secretions, but is decomposed in the small intestine in the presence of bile. Fifteen minutes after eating a roll and drinking a cup of tea, 3.5 gm. of a 10 per cent. solution of iodipin are ingested in a little water. The appearance of the iodin in the saliva indicates the moment when the chyme is passing out of the stomach. This occurs in fifteen minutes under normal conditions. In icterus from retention, if no bile reaches the intestines, the iodin reaction does not occur at all, and it is much delayed in case of stenosis of the pylorus, atony of the stomach, etc. The permeability of the kidneys can also be determined by the iodin reaction in the urine during the twenty-four hours after subcutaneous injection of 4 cg. of potassium iodid. Still another means of utilizing the iodin reaction for diagnostic purposes is to examine the cerebrospinal fluid by lumbar puncture after ingestion of 4 gm. of potassium iodid by the mouth, in case of suspected meningitis. If the meninges are normal, the iodin does not pass through them. The ordinary starch paper used in the tests rapidly deteriorates, and may lead to erroneous deductions when not perfectly fresh. Dennigés makes a paper which keeps indefinitely, with no precautions, while it is so sensitive that it reveals the presence of even .001 mg. in a single drop of the solution. One gm. of starch is dissolved in 10 c.c. of cold distilled water and 40 c.c. of boiling water added. The mixture is then boiled for a minute or two, stirring constantly. When cooled, .5 gm. of sodium nitrite is stirred in and writing paper is painted with this mixture on both sides, drying each side separately. A strip of this paper, 1 cm. wide, is moistened with the fluid to be tested and held at an angle, the moistened side up. One drop of a 10 per cent. solution of sulphuric acid is then deposited at the top of the paper with a glass rod, and as the drop works its way down, the characteristic coloration appears.

Presse Medicale (Paris), February 27.

**Generalized Pneumococcus Peritonitis in Children.** F. BRUN.—Benign, encysted pneumococcus peritonitis is speedily cured by spontaneous or operative evacuation of the pus pocket, which is usually located near the umbilicus. Besides this benign variety Brun has had occasion to observe six cases in which the disease assumed a septic, generalized form, rapidly fatal. At the autopsy pseudomembranes were found numerous

in the abdomen and elsewhere, with greenish pus on the posterior surface of the stomach and spleen; the mesentery was dotted with ganglia. There was no trace of pneumonia. The pneumococcus was found pure in the pus. Two of the patients were girls about 5 years of age, another was a boy of 10; all were healthy children. One was operated on the second day of the disease, which was diagnosed peritonitis from appendicitis. In another, the disease commenced with pain, fever, headache, and white patches on the tonsils. These symptoms improved by the end of five days, but merely to be substituted by pain and tympanites, vomiting, imperceptible pulse, oppression, dark rings around the eyes and dull gaze. The abdomen was opened as for appendicitis and pus escaped, which was not traceable to the appendix. All the loops of intestine were scattered with pseudomembranes. Each patient died in three to seven hours after the operation.

March 2.

**The Antituberculosis Dispensary at Liege.** E. MALVOZ.—A model tuberculosis dispensary has been constructed at Liége, by the efforts of a society composed of all classes of people. The work has been in progress for more than a year and the results have been unexpectedly gratifying. The dispensary is open three days a week. Three physicians examine the applicants, and another makes the bacteriologic tests. The physicians do not treat the patients—they merely examine them from time to time and keep a detailed record of each case. An official is connected with the dispensary, an ex-working man, whose duty is to learn the circumstances of the patients, their occupation and all the details of their surroundings at home and at work, winning the confidence of the patients and their families, and educating them in hygienic measures. They are supplied with bedding, etc., as needed, and two quarts of Pasteurized milk a day. Arrangements have been made with farmers to board some of the most promising patients, and philanthropists have become interested in certain patients and assumed this expense for them, about sixty cents a day for each one. The tuberculous poor have learned to appreciate the work of the society and respond faithfully to its efforts, knowing that disregard of the prophylactic measures recommended means the withdrawal of the milk and other assistance. The work is carried on in a spirit of mutual helpfulness, with scrupulous avoidance of red tape. The society has now a hundred cases in its charge and has spent about $600 for reclining chairs, bedding, etc. When surroundings are hopelessly unsanitary, a healthy home is found for the family at the same price, in an out-lying part of town, and is offered them rent free for the first two or three months, which usually proves a sufficient inducement to move, the society paying the deficit in the rent. Branch societies have recently been organized in the two nearest large towns, principally by the efforts of physicians, and the province is now erecting the first public sanitarium in Belgium, which will accommodate 500 inmates.

**Therapeutic Indications for Kefir.** L. HALLION.—In Russia a course of kefir is considered extremely beneficial for the treatment of pulmonary phthisis, as it affords a nourishing article of food, digested and assimilated with extreme ease, and even a specific action on the disease is ascribed to it. In other affections it will be found useful whenever a milk diet is indicated, substituting, or combined with the milk. It is particularly valuable in case of defective digestion, in biliary and renal lithiasis, in chronic rheumatism and affections retarding nutrition, anemia, chlorosis, convalescence from acute diseases, etc. Hallion considers it contraindicated in heart disease, stasis of the portal system, rhachitis and obesity. Besides possessing the physiologic properties of milk, with superior digestibility, it also contains micro-organisms and diastases to counteract bacteria and pathogenic toxins. The therapeutic indications have been established on this basis, and have been confirmed by experience.

March 9.

**Improved Nitric Acid Test for Albuminuria.** EHRMANN.—The conical graduated glass has a tube held over it by a standard. The tube is shaped like a long narrow funnel and just touches the bottom of the glass. The nitric acid is poured into this tube without interruption to the flow, thus avoiding air bubbles. As the acid emerges at the bottom the reaction of the albumin is much more even and regular than by any other means and the amount of the precipitate, when all has been deposited, affords a quantitative measure of the albumin, each division representing 5 cg. of albumin to the liter of urine. The standard is arranged to suspend a large funnel tube over a conical glass holding 50 c.c. on one side and, on the other, a small tube over a glass holding but 10 c.c., to correspond to a small or large amount of urine at one's disposal. The entire test requires absolute stillness. The tubes and glasses must be kept perfectly still after the acid has been poured in; the slightest touch impairs the accuracy of the reaction, even the removal of the pipette in the usual method of using the nitric acid test. The glasses were graduated by observing the depth of the precipitate that corresponded to a certain weight of albumin representing 5 cg. to the liter of urine, and fractioned in proportion.

Revue de Chirurgie (Paris), March.

**Unilateral Exclusion in Case of Rebellious Fistula of the Intestine.** X. DELORE AND M. PATEL.—Two cases are described. The first was a pyostercoral fistula in the right iliac fossa consecutive to tubercular appendicitis. Except for cervical adenitis in childhood, the patient, a woman of 40, had been healthy until six months before when vague pain was experienced in the right iliac fossa, with occasional vomiting. After four months a large abscess spontaneously opened in the region, with four orifices. These fistulæ evacuated pus and fecal matter and the patient became cachectic. The cecum was found free, but the appendix was adherent to a number of loops of the small intestine. The latter was severed about a yard above the appendix and the distal end closed and replaced in the abdominal cavity. The proximal stump was implanted in the ascending colon. This unilateral exclusion did not arrest the cachexia which continued to a fatal termination four weeks later. The autopsy showed the anastomosis perfect, and the peritoneum sound, but the appendix was in a purulent focus. It was partially destroyed and one of the loops of the small intestine had several perforations communicating with the abscess cavity. In the second case the stercoral fistula was caused by a tubercular affection of the ileum and appendix. The cecum and lower portion of the ascending colon were severed from the small intestine and the distal stump closed. The lower segment of the ileum was inserted in the small intestine and the patient made an uneventful recovery with gradual disappearance of the fistula. These cases are typical of what may be anticipated in operations of this nature on the small or on the large intestine. When the small intestine is involved no better results are obtained than with entero-anastomosis, that is, fecal matters accumulate in the lower portion and the fistula persists. But the results are positive and frequently cure, when the operation is on the large intestine. If the fistula involve the cecum, the ileum should be implanted in the sigmoid flexure. But if located at the terminal portion of the intestine without involvement of the cecum, it can be implanted in the ascending colon. The circulation of fecal matters is definitely suppressed, the same as with bilateral exclusion. A purulent fistula has less reason for continuing than in the latter case, and the chances of infection from propagation are less. Unilateral exclusion may even be employed in case of a non-fistulous tubercular affection of the cecum, not only as a cure but as a preventive of a stercoral fistula. The disadvantages of the small intestine for unilateral exclusion are the greater amount of peristalsis liable to induce retrograde movement of the feces, the more copious secretions and consequently the greater fluidity of the intestinal contents.

Semaine Medicale (Paris), March 6.

**Severe Vomiting in Pregnancy.** CH. ACHARD.—Between the simple and the uncontrollable vomiting of pregnancy there is a third, intermediate class in which the vomiting is severe, frequent and distressing, but not absolutely uncontrollable. In a case described, the vomiting appeared at the third month, accompanied by symptoms of hyperchlorhydria, and was re

lieved as the latter yielded to treatment with alkalies: a teaspoonful of equal parts of sodium bicarbonate and magnesia whenever the pains appeared, and a strict milk diet. In two other cases this treatment proved ineffectual and was suspended, but the vomiting was cured by lavage of the stomach. At first the lavage increased the vomiting spasms, but as it continued the stomach quieted down, and after a daily repetition for a few times, the vomiting was completely arrested. . these patients had a tendency to hysteria and neuropathy, and Achard suggests that hysteria may be a prominent factor in the vomiting of pregnancy. Other factors may be an excessive excitability on the part of the vomiting center, and some special excitation capable of affecting this center by the reflex route. The starting point of his causal excitation varies with the case and is by no means restricted to the uterus and adjacent organs. The stomach is particularly liable to be its seat.

Berliner Klin. Wochenschrift, February 18 and 25.

**Serum Test for Differentiation of Human and Animal Blood.** A. WASSERMANN AND A. SCHUETZE.—These scientists and Uhlenhuth conducted, independently, simultaneous researches in this line and reached the same conclusions. Their announcements were published in two of our Berlin exchanges with only a day's interval between them. Uhlenhuth's discovery was mentioned editorially in THE JOURNAL of March 9, p. 673, and this communication from Wassermann more emphatically confirms the value of the new test. The rabbits were prepared by subcutaneous injection of 10 c.c. of human blood serum, free from cells, repeated every other day for five or six times. The animals bore the injections well, and, six days after the last, they were bled to death from an incision in the carotid, the blood being cooled on ice. By adding .5 c.c. of this serum to a specimen of human blood diluted with salt solution or distilled water, the fluid becomes turbid and a precipitate is deposited, more abundant at 37 C. than at room temperature. The blood of 23 different kinds of animals was tested and the reaction found absolutely specific for each. The only exception is monkey's blood, which reacts feebly to the prepared human blood serum. In two dozen tests with blood from all these animals, distributed on various substances and left unprotected for three months, the results were as decisive as with fresh blood. A flake of the brown, dried blood, a trifle larger than a dime, was dissolved in 5 or 6 c.c. of salt solution and the fluid filtered until perfectly clear, when .5 c.c. of the prepared serum was added and the vessel kept in the autoclave at 37 C. In twenty minutes the tube containing the human blood became turbid, while all the others remained clear. In fifteen minutes more, a flaky precipitate was deposited in the human blood tube, while the monkey tube alone showed signs of cloudiness. Serum for treating the rabbits can be obtained from the hospitals, but in greater abundance at the maternities, from placentas squeezed to extract the blood. The reaction is more pronounced the fresher the rabbit serum, but it was obtained even with serum fourteen days old. A prepared serum of this kind could be supplied from a central station. Tests are now in progress with goats instead of rabbits and with the fluid from effusions, ascites, etc.

**Adenomyoma Obliterating the Cervix.** L. LANDAU. Mesonephric adenomyomata have been found at various parts of the internal genitalia, but Landau states that this is the first case on record in which one was located in the cervix. It completely obliterated the outlet, and the patient, a robust woman of 40, had never menstruated, although the molimen was marked every month. The tumor was solid, of the size and shape of an apple and accumulations of blood were found in the obstructed uterus and tubes, in the omentum and ovaries and beneath the peritoneum. Somewhat similar cases of gynatresia have been reported in Finland, operated on at the age of 40 and 46 years, and one by Rossa at 35.

**Sterilization of Silk Catheters.** MANKIEWICZ.—The sterilization of silk catheters, by boiling them for five minutes in a saturated solution of ammonium sulphate, is considered by Mankiewicz as a great advance in this line. All the bacteria and cocci are destroyed in two minutes, while the catheters are not injured in the least by the repeated process. They are placed first in the cold solution and heated with it.

Muenchener Med. Wochenschrift, March 5.

**Influence of Salt Solution on the Morphology of Coagulation.** E. SCHWALBE.—Isotonic salt solution has no influence on the process of coagulation, but a hyperisotonic, 2 to 3 per cent. solution, alters the shape of the red corpuscles, rapidly increases the number of blood-plates and has a marked effect in accelerating coagulation. These facts, observed by Schwalbe, suggest that the blood-plates must be derived from the red corpuscles. The alterations in the shape of the corpuscles and the development of blood-plates coincident with the accelerated coagulation also suggest an evident connection between these processes. The assumption seems plausible that coagulation is the result of the liberation of a ferment from the red corpuscles undergoing destruction from the hyperisotonic salt solution, and that the changes in the red corpuscles are the morphologic expression of coagulation.

**Drumstick Finger.** A. DENNIG.—In only one of the ten cases of drumstick finger noted by Dennig, was it possible, by radiography, to detect any involvement of the bone. He concludes that in the majority of cases the enlargement is due to congestion and hypertrophy of the soft parts of the tip of the finger involved. In rare cases there may be an ossifying periostitis of the terminal phalanx. The affection is consecutive to an infection or toxic process, a congenital heart affection, disease of the nervous system or a malignant tumor. In one of Dennig's cases the only cause that could be incriminated was severe gastrectasis.

**Ulcus ex Digestione in the Esophagus.** K. ORTMANN.—Schaffer has reported finding patches of typical stomach epithelium in the pavement epithelium of the esophagus. This helps to explain the process known as *ulcus ex digestione* in the esophagus. Ortmann describes two cases with no preceding corrosion from caustics or syphilis. The first was a healthy man of 42, who began to spit and vomit blood, with pains in the thorax, discomfort and pain during and after meals, localized at the lower portion of the sternum. After four years symptoms of stenosis of the esophagus appeared, with constant vomiting, most severe about 2 or 3 a. m. The esophagus became enlarged above the stenosis. After repeated sounding, the stenosis was dilated and the symptoms relieved. In the second case, a man of 28 with a record of cerebral inflammation at 2 years of age, nervous fever at 12 and inflammation of the lower lobe of the right lung at 22, but otherwise healthy, drank some very sour wine and immediately afterward experienced violent cramp in the stomach and chest. This was followed by frequent local oppression and vomiting during and after every meal, and again on retiring. The vomiting was not accompanied by pain after the first few days, but increased in amount. He never vomited blood. Stenosis of the esophagus with enlargement above occurred as in the first case, and the introduction of the sound alleviated the stenosis and cured the symptoms in the same way. The troubles had lasted six years in the first and seven in the second case. The increase of 8 and 9 pounds in weight indicates that the stenosis could not have been of a malignant character, but in a previously reported case Ortmann observed that a carcinoma developed later at the site of the stenosis. The pains were regularly experienced at the ensiform process whenever the patient swallowed and after the ingestion of food, and the slow gradual development of the stricture indicated the ulcerative nature of the process.

St. Petersburg Med. Wochenschrift, March 2 and 9.

**Diagnostic Value of Pulse Tracings.** J. GRUENBERG.—The tracings of the sphygmograph do not always afford reliable information in general hospital practice for various reasons, but in private practice they may be found of invaluable assistance in diagnosing obscure cases. The tracings are particularly instructive in the incipient stage of arteriosclerosis before an anatomic cause for the variations in the pulse exists. Gruenberg pleads for more general study of the pulse with instruments, as digital investigation alone is frequently misleading.

# Queries and Minor Notes.

## PHYSICIANS AND THE AUTOMOBILE.

ROCHESTER, MINN., March 25, 1901.

*To the Editor:*—A recent request for information as to what is the best automobile for physicians' use urges me to give my experience. I have taken a great interest in the horseless carriage during the past few years, making several trips east to investigate them at exhibitions, and using a steam buggy during the past season with considerable pleasure.

The electric carriages are the easiest managed, the cleanest and least noisy. They have great objections in their weight, which causes them to pound over rough pavements, also in their short range of mileage, and in requiring special facilities for charging, which will limit their use to the city physician.

The gasoline carriages have more or less unpleasant vibration, and the higher power vehicles are clumsy in construction. The horse power has been gradually increased from three to nine to enable them to go through mud and climb the hills. Their main trouble is in the electric sparking device, which will be understood by those physicians who keep their medical batteries in order. In Europe, gasoline automobiles are in the lead, while in this country they are in a rapid transition stage of both engine and power transmission. The firms which appear to have the best outfits have none running, but the models, though many are under construction.

The steam buggy is the cheapest, lightest and most elegant for the amount of power developed. It requires the most attention from the operator, in spite of the many automatic additions. It slips and slides about in the mud in a most disagreeable manner, while in cold weather there is trouble from the freezing of the pipes and the necessity of keeping the barn warm. Reports from eleven steam vehicle operators, given in a recent edition of the *Automobile*, gave an average of over $100 for repairs in 2000 miles for each buggy.

The small wheels used in most automobiles require good roads for comfortable riding. At this time, my opinion is that steam is the most sure power, yet the rapid advance in gasoline engines will undoubtedly make them the most convenient in another year.

Automobiles at present are more or less of a pleasure vehicle for good roads, their perfection not being such as to warrant the physician who purchases one in selling his horse.

C. H. MAYO, M.D.

## DRUGGISTS AS PHYSICIANS.

The secretary of a medical society writes as follows: "The —— Society, having adopted the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION, has received an application for membership from a regular practitioner in this city who likewise owns and operates a drug store in his own name. Kindly advise me as to his eligibility."

ANS.—There is nothing in the Code of Ethics which prohibits a physician from acting as a pharmacist and putting up not only his own, but the prescriptions of other physicians. It is a question of taste whether the two professions should be combined. A physician who operates a drug store after the manner of many druggists, dispensing and commending secret nostrums, put up by himself or others, or who in any way, by sale or otherwise, promotes the use of patent or secret medicines, violates the letter and principles of the Code.

## IF I SHOULD DIE TO-NIGHT.

CHICAGO, March 25, 1901.

*To the Editor:*—F. N. M., in THE JOURNAL of March 23, p. 851, asked where he could find the poem beginning: "If I should die to-night." The parody referred to is the poem on the first page of "Ben King's Verse" (Forbes & Co., 1900). The poem which inspired the parody was written by Arabella E. Smith, and can be found on page 309 of "The Humbler Poets" (A. C. McClurg & Co.). The parody is suggestive, and can be appreciated by men of experience in loaning money and collecting bills. The other poem is a gem and should be read and remembered. H. S.

MUNCIE, IND., March 23, 1901.

*To the Editor:*—"If I Should Die To-night," etc., is published in "The Doctor's Window," a volume of poems "By the Doctor, for the Doctor and About the Doctor." (C. W. Moulton, Buffalo, N. Y.) In that volume it is entitled: "The Latest Reconstructive Nerve-Tonic and Restorative." It was printed in the *Medical Standard*, Chicago, February, 1900, p. 106. G. W. H. K.

[Answers have also been received from W. H. G., Philadelphia; F. B. F., Springfield, Ill.; N. L. J., Williamsport, Pa.; D. R., Atlanta, Ga.; W. T. M., Blue Mound, Ill., and E. W. B., St. Louis, Mo.—ED.]

## SCHOTT TREATMENT.

NUTLEY, N. J., March 16, 1901.

*To the Editor:*—Has there been published in THE JOURNAL a description of the baths and resistance treatment of the Schott brothers and Dr. Beyley Horn, of London, or where could I find such information? J. C.

ANS.—Papers on the subject, by C. N. B. Camac, appeared in THE JOURNAL for Aug. 28, 1897, by Dr. Ellsworth Smith, in the issue of Jan. 28, 1898, and by C. L. Greene, Oct. 15, 1898.

## ADDRESSES OF SECRETARIES.

BALTIMORE, MD., March 25, 1901.

*To the Editor:*—Kindly give me the name and address of the secretaries of the state boards of medical examiners of North Carolina and Pennsylvania, and oblige. SUBSCRIBER.

ANS.—They are Dr. J. Howell Way, Waynesville, N. C., and James W. Latta, Esq., Department of Interior Affairs, Harrisburg, Pa.

## ORIGINAL EXPERIMENTER WITH INDIVIDUAL COMMUNION CUP.

NEW YORK CITY, March 22, 1901.

*To the Editor:*—For the information of L. P. D., who is desirous of obtaining the name and address of the original experimenter in the individual communion cup agitation, please state that it was Dr. M. O. Terry, of Utica, N. Y., who was the first physician to publicly suggest the desirability of a change. This he did in a paper read before the Oneida County Medical Society, in January, 1887. ALBERT S. ASHMEAD, M.D.

# Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume 1. March, 1901. Surgery of the Head, Neck, and Chest—Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia and Influenza—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Cloth. Pp. 440. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1901.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Twenty-fourth Annual Meeting held in Washington, D. C., May 1, 2 and 3, 1900, in Connection with the Fifth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings. By Frank Hugh Montgomery, M.D. Cloth. Pp. 235. Chicago: P. F. Pettibone & Co. 1901.

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik. Containing 52 Illustrations, with 23 Charts and Tables, Mostly Original. Cloth. Pp. 359. Price, $1.50 net. Philadelphia and Chicago: F. A. Davis Co. 1901.

DIET AND FOOD, Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital. Third Edition. With Five Illustrations. Cloth. Pp. 112. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Department. Assisted by Frederick J. Cotton, M.D. Second edition, Revised. With 611 Illustrations. Cloth. Pp. 457. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College. With 175 Illustrations, 23 of them in Colors. Second Edition. Cloth, Pp. 646. Price, $4.00 net. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF PRACTICAL HYGIENE for Students, Physicians, and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price, $4.25 net. Philadelphia and New York: Lea Brothers & Co. 1901.

NEWFOUNDLAND IN 1900. A Treatise of the Geography, Natural Resources and History of the Island, Embracing an Account of Recent and Present Large Material Movements. By Rev. M. Harvey, LL.D., F.R.C.S. Finely Illustrated with Maps and Half-tone Engravings. Cloth. Pp. 187. New York: The South Publishing Co. 1900.

A TEXT-BOOK OF OPHTHALMOLOGY. By John W. Wright, A.M., M.D., Professor of Ophthalmology and Clinical Ophthalmology in the Ohio Medical University. Second Edition, Thoroughly Revised. With 117 Illustrations. Cloth. Pp. 378. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

CHLOROFORM: A Manual for Students and Practitioners. By Edward Lawrie, M.B., Edin., M.R.C.S. Eng., Lieutenant-Colonel I. M. S. Cloth. Pp. 120. Price, $1.75 London: J. & A. Churchill. 1901.

MANUALE DI CHIRURGIA OPERATORIA, Dei Dottori R. Strecchi e A. Gardini. Con 118 Incisioni. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1901.

RETINOSCOPY (Or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Fourth Edition, Revised and Enlarged. 51 Illustrations, 12 of Which are Colored. Cloth. Pp. 89. Price $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

PULMONARY CONSUMPTION, PNEUMONIA, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Illustrated. Cloth. Pp. 539. Price, $3.00. New York: E. B. Treat & Co. 1901.

WHAT A MAN OF FORTY-FIVE OUGHT TO KNOW. By Sylvanus Stall, D.D., Author of "What a Young Boy Ought to Know." Cloth. Pp. 284. Price, $1.00. Philadelphia and London: Vir Publishing Company.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. For the Year 1900. Volume XVI. Cloth. Pp. 210. Philadelphia: Printed for the Association. 1900.

COINCIDENT TYPHOID AND MALARIAL INFECTION. Report of a Case and Review of the Literature, with a Discussion of the So-called Typhomalarial Fever. By Irving Phillips Lyon, M.D., (Johns Hopkins), Buffalo, N. Y. Paper. Pp. 30. From the Johns Hopkins Hospital Reports.

SIX MONTHS ABROAD ON THREE HUNDRED DOLLARS. An Account of a Tour Taken by a Gentleman and His Wife in Germany, Belgium, Egypt, Palestine, Syria, Turkey, Greece, Italy, Switzerland, France, England and Scotland. Paper. Pp. 43. Price, $0.50. Carrollton, Mo.: E. H. Kellar. 1901.

TUBERCULOSIS as a Disease of the Masses, and How to Combat It. Prize Essay by S. A. Knopf, M.D., New York. Paper. Pp. 86. Price, $0.25. New York: M. Firestack. 1901.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. During January. Paper. Pp. 42. Price per copy, $0.15. Philadelphia: Published by the Society.

THE CIRCULATION IN THE NERVOUS SYSTEM. By Herman Gasser, M.D. Paper. Pp. 156. Price, $1.00. Platteville, Wis.: Journal Publishing Co. 1901.

THE STUDENTS' MANUAL OF VENEREAL DISEASES. By F. R. Sturgis, M.D., Sometime Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York. Seventh Edition. Revised and in Part Rewritten by F. R. Sturgis, M.D., and Follen Cabot, M.D., Instructor in Genito-urinary and Venereal Diseases in the Cornell University Medical College. Cloth. Pp. 216. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

MANUAL OF THE DISEASES OF CHILDREN. By John Madison Taylor, A.M., M.D., Professor of Diseases of Children, Philadelphia Polyclinic, and William H. Wells, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic. Second Edition, Thoroughly Revised and Enlarged. Illustrated. Cloth. Pp. 859. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By William Dodge Frost, Instructor in Bacteriology, University of Wisconsin. Illustrated. Cloth. Pp. 205. Price, $1.60. Madison, Wis.: Published by the Author. 1901.

A TREATISE ON APPENDICITIS. By George Ryerson Fowler, M.D., Professor of Surgery in the New York Polyclinic. Second Edition. Revised and Enlarged. Cloth. Pp. 235. Price, $2.50. Philadelphia and London: J. B. Lippincott Co. 1900.

## New Patents.

Patents of interest to physicians, etc., March 5 and 12:

669,336. Local application of electric treatment to the human body. Herrman Behrendt, Worms, Germany.

669,361. Obtaining albumen. Georg Deycke, Constantinople, Turkey.

669,217. Invalid bed. John Hanson, Hansonville, Minn.

669,087. Device for applying hot air to parts of the body. John C. Hoyt, Richmond, Mo.

669,098. Inhaler. Timothy T. Overshiner, Marion, Ind.

669,100. Physicians' electric lamp. Purdy M. Randall, New York City.

669,450. Device for handling invalids. Cornelius Stephens, Reno, Mich.

669,271. Making phosphoric acid. Frank P. Van Denbergh, Buffalo, N. Y.

669,910. Irrigating vaginal syringe. Joseph P. Ball, Hesston, Kan.

669,583. Breast pump. Joseph H. Hoover, Waterloo, Iowa.

669,756. Bed-pan. Mary MacAdam, Lynn, Mass.

669,757. Vaporizer. Thomas A. Mack, New York City.

669,846. Apparatus for exercising and developing the fingers. Jean Morat, Lyons, France.

669,716. Topical remedy. Robert Wallace, Louisville, Ky.

34,202. Design, atomizer and inhaler. Charles M. Blackman, New York City.

34,201. Design, medicinal tube. Louis F. Cushing, Gray, Maine.

# The Public Service.

## Promotions and Appointments of Army Medical Officers, Regulars and Volunteers.

The following promotions and appointments in the Medical Department, U. S. A., and appointments to positions as surgeons and assistant surgeons, U. S. Vols., consequent on the passage of the army reorganization bill on February 2, last, have been reported up to March 15, 1901:

PROMOTIONS IN U. S.

To be assistant-surgeons general, with the rank of colonel—Lieut.-Cols. Justus M. Brown and Charles Smart, Feb. 2; Peter J. Cleary, Feb. 4.

To be deputy surgeons general, with the rank of lieutenant-colonel—Majors Joseph B. Girard, Feb. 2; Ezra Woodruff, Feb. 2; John D. Hall, Feb. 2; Philip F. Harvey, Feb. 2; Charles B. Byrne, Feb. 4.

Assistant-surgeons to be surgeons, with the rank of major—Captains Adrian S. Polhemus, William C. Borden, Edgar A. Mearns, Guy L. Edie, William D. Crosby, William L. Kneedler, Charles M. Gandy, Charles B. Ewing, Walter D. McCall, Jefferson R. Kean, Henry I. Raymond, Francis J. Ives, William P. Kendall, Edward R. Morris, Feb. 2; Henry S. T. Harris, Feb. 4.

APPOINTMENTS IN U. S. A.

To be assistant-surgeons with rank of first lieutenant—Arthur W. Morse, of Illinois, Feb. 4; Frank C. Baker, of the District of Columbia, Feb. 4; Henry S. Kiersted, of Pennsylvania, Feb. 4; Allie W. Williams, of Georgia, Feb. 4; John J. Reilly, of New York, Feb. 4; Jerome S. Chaffee, of New York, Feb. 4; John D. Yost, of Massachusetts, Feb. 11; Charles R. Reynolds, of New York, Feb. 11; Paul C. Hutton, of North Carolina, Feb. 11; Frederick A. Dale, of Pennsylvania, Feb. 11; William M. Roberts, of Maryland, Feb. 11; Charles W. Farr, of New York, Feb. 11; James P. Edwards of Pennsylvania, March 6; Jay R. Shook, of Pennsylvania, March 6; William E. Vose, of Maryland, March 6; Frank T. Woodbury, of Pennsylvania, March 6.

APPOINTMENTS, U. S. VOLUNTEERS.

To be surgeons with rank of major from Feb. 7—Acting Assistant Surgeons Joseph Milton Heller, Arlington Pond. Majors Henry D. Thomason, surgeon; Samuel O. L. Potter, surgeon; Acting Assistant-Surgeon Robert H. Zauner; Captain William Bowen, assistant-surgeon, 27th Infantry, U. S. Vols.; Major Joseph N. Henry, surgeon 31st Infantry, U. S. Vols.; Acting Assistant-Surgeon Walter Whitney.

To rank from March 11—Majors Herbert W. Cardwell, Henry F. Hoyt, Samuel T. Armstrong, George H. Penrose, William F. de Niedeman, Ira C. Brown, Frederick J. Combe, Franklin A. Meacham, Charles M. Drake, Thomas C. Chalmers, 28th Infantry, John R. McDill, 30th Infantry; John R. Hereford, 32d Infantry; Luther B. Grandy, 35th Infantry, Seaton Norman, 39th Infantry. Captains Shadworth O. Beasley, 11th Cavalry; James C. Miner, 29th Infantry, Frederick Hadra, 30th Infantry; John A. Metzger, 35th Infantry; Thomas B. Anderson, 37th Infantry; Charles L. Furbush, 44th Infantry; Robert P. Robins, 47th Infantry, William H. Cook, 32d Infantry.

To be assistant-surgeons, with rank of captain from Feb. 7—Acting Assistant-Surgeons Clark I. Wertenbaker, Frank A. E. Disney, Charles H. Andrews, Robert M. Enders, Sr., Matthew Leepere, Charles Anderson, James S. Kennedy, Frank P. Kenyon of Kentucky, Guy G. Bailey, George A. McHenry, Edward F. Horr, Shannon Richmond, Elmer S. Tenney, Samuel D. Huntington, Captain James J. Erwin, 30th Infantry; Acting Assistant-Surgeons James F. Presnell, Frederick H. Sparrenberger, Irvin E. Bennett, James H. McCall, Thomas C. Stunkard, Harold W. Cowper, Dwight B. Taylor.

From Feb. 9—Acting Assistant-Surgeon Harry A. Littlefield, Frederick W. Cox of South Dakota, Gerry S. Driver.

From Feb. 11—Acting Assistant-Surgeons Justus M. Wheate, Francis M. McCallum.

From Feb. 12—Captain Isaac W. Brewer, 36th Infantry; Ernest H. Wheeler, of Maine.

From Feb. 14—Acting Assistant-Surgeons George W. Daywalt, Frederick C. Jackson.

From Feb. 18—Acting Assistant-Surgeons James J. Edmonson, Joseph C. Reifsnyder, Joseph J. Curry of Massachusetts, James K. Stockard, George R. Plummer, William R. Van Tuyl, John S. Fogg.

From Feb. 20—Acting Assistant-Surgeon William F. James.

From March 11—First Lieutenants George P. Peed, 28th Infantry; W. Dudley, asst.-surgeon 32d Infantry; John Carlin, 35th Infantry; George S. Wallace, 42d Infantry; Laurel B. Sandall, 43d Infantry; Acting-Assistant-Surgeons Timothy F. Goulding, Charles F. de Mey, Bruce Foulkes, Henry W. Eliot, H. Eugene Stafford, Waller H. Dade, Fred F. Sprague, Rene Vandam, Fred M. Barney, William G. Miller, John C. Orr, Arthur D. Prentice, Elwin W. Ames, William A. Tukey, George H. Jones, Frederick H. Morehart, Harry S. Moore, Verdo B. Gregory, Clarence H. Long, Henry H. Rutherford, George A. Zeller, Walter C. Chidester, Palmer H. Lyon, Edwin C. Shattuck, Frederick D. Branch, Ira Ayer, Albert L. Miller, Charles G. Eicher, John J. Repetti, Gilbert I. Cullen, Raymond E. Whelan, Cyrus D. Lloyd, William E. McPherson, Wilson Murray, Thomas H. Landor, Charles A. Cattermole, Robert Boyd, John S. Hill, Donald P. McCord, John T. H. Slayter, Henry Pick, James B. Pascoe, Charles H. Stearns, Oscar W. Woods, Arthur Jordan, Perceval S. Rossiter, Thomas W. Bath, Vernon K. Earthman, Carl R. Hexamer, George L. Painter, Starling S. Wilcox, William W. Calhoun, Allen D. McLean, Robert A. Anderson, William O. Davies, Frank DuBois, Samuel K. Carson, George E. Means, Jerome B. Thomas, Paul T. Dessez, John F. Miner, Edwin P. Hayward, Vernon J. Hooper, Najeeb N. Saleeby, Eduardo C. Poey, W. Edson Apple, Herman J. Schlageter, George K. Sims, Lewis T. Griffith, Charles P. Nichols, William D. Shelby, Alva S. Pinto, William R. Davis, First Lieut. Loren B. T. Johnson, 36th Infantry; Acting Assistant-Surgeons Charles W. Hack, Frank D. Pease, Thomas C. Longino, Compton Wilson, Charles R. Gill, Charles E. MacDonald, Francis Persell, William T. Tanner, Ira A. Allen.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 14 to 20, 1901, inclusive:

G. Parker Dillon, acting asst.-surgeon, from Grand Rapids, Mich., to duty at Fort Sheridan, Ill.

William F. Lewis, major and surgeon, Vols., from the Division of the Philippines to duty at Fort Leavenworth, Kan, relieving Major Adrian Polhemus, surgeon, U. S. A.

George A. McHenry, captain and asst.-surgeon, Vols., recently appointed and now at Santiago, Cuba, to proceed to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Edward R. Morris, captain and asst.-surgeon, U. S. A., relieved from further duty as examiner of recruits in the city of Detroit, Mich.

George R. Plummer, captain and asst.-surgeon, Vols., recently appointed, relieved from duty in the Department of Cuba, and to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian Polhemus, major and surgeon, U. S. A., from Fort Leavenworth, Kan., to San Francisco, Cal., en route for service in the Division of the Philippines.

Josiah W. Richards, acting asst.-surgeon, from the transport *Buford* to proceed from San Francisco, Cal., to Fort Mott, N. J., for duty at that port.

Najib Taky-ud-Deen, acting asst.-surgeon, from Washington, D. C., to duty at Columbus Barracks, Ohio.

Blair D. Taylor, major and surgeon, U. S. A., member of a board at Honolulu, H. I., to examine officers of the army for promotion.

Fred R. Underwood, acting asst.-surgeon, from London, Ohio to duty at Fort Leavenworth, Kan.

Walter Whitney, major and surgeon, Vols., from Fort Walla Walla, Wash., to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian D. Williams, acting asst.-surgeon, from Fort Adams R. I., to duty with the 1st Battalion, 11th U. S. Infantry, en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Charles F. Williams, acting asst.-surgeon, relieved from temporary duty at Fort Screvens, Ga., and assigned to duty at Fort McPherson, Ga., where he will become a member of an examining board, relieving A. A. Surgeon Francis A. Halliday.

Charles E. Woodruff, captain and asst.-surgeon, U. S. A., member of a board at Fort Riley, Kan., for the examination of officers of the army for promotion, relieving Major Adrian Polhemus, surgeon, U. S. A.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 23, 1901:

Medical Director J. B. Parker, detached as president of medical examining boards, Washington, and ordered to Naval Home, Philadelphia.

Medical Director R. A. Marmion, detached from Naval Home, and to duty at the Washington Navy Yard, as president of the examining board.

P. A. Surgeon J. M. Moore, detached from the Port Royal Naval Station, and ordered to the *Franklin*, April 2.

P. A. Surgeon E. S. Bogert, detached from the *Massachusetts*, and ordered home to wait orders.

Asst.-Surgeon H. C. Shiffert, detached from the *Franklin*, and ordered to the *Solace*, April 1, and to the Asiatic Station.

Asst.-Surgeon J. C. Thompson, ordered to the Port Royal Station.

Asst.-Surgeon F. Thompson, detached from *Nashville*, and to *Solace*.

Asst.-Surgeon N. E. Hass, ordered to Naval Hospital, New York.

Asst.-Surgeon W. B. Grove, from Naval Hospital, New York, to Naval Hospital, Norfolk, Va.

Surgeon J. F. Bransford, retired in accordance with act of congress, approved Feb. 5, 1901.

Asst.-Surgeon S. S. Rodman, detached from Naval Hospital, Mare Island, and to the *Adams*.

Asst.-Surgeon R. T. Orvis, detached from the *Adams*, and ordered to Naval Hospital, Mare Island.

Medical Director E. S. Bogert, retired, detached from recruiting rendezvous, New York, and home.

Surgeon H. L. Law, retired, ordered to recruiting rendezvous, Buffalo, N. Y.

Surgeon M. H. Crawford, detached from recruiting rendezvous, Buffalo, N. Y., and to Marine Recruiting Rendezvous, New York City.

Surgeon P. Leach, detached from the *Oregon*, and to the *Monocacy*.

P. A. Surgeon S. G. Evans, from the *Kentucky* to the *Concord*.

P. A. Surgeon A. Farenholt, from the *Concord* to the *Oregon*.

Asst.-Surgeon W. E. G. High, from the *Oregon* to the *Kentucky*.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 21, 1901:

Surgeon Preston H. Bailhache, relieved from duty at the bureau and directed to proceed to Stapleton, N. Y., and assume command of the service, relieving Surgeon G. W. Stoner, March 8, 1901.

Surgeon G. M. Stoner, upon being relieved by Surgeon Preston H. Bailhache, to proceed to Immigration Depot, New York City, and assume command of the service, relieving Surgeon L. L. Williams, March 8, 1901.

Surgeon H. R. Carter, upon being relieved by P. A. Surgeon G. B. Young, to proceed to Baltimore, Md., and assume command of the service, relieving P. A. Surgeon B. W. Brown, March 8, 1901.

Surgeon A. H. Glennan, granted leave of absence for eleven days from March 6, March 8, 1901.

Surgeon L. L. Williams, upon being relieved by Surgeon G. W. Stoner, to proceed to Washington, D. C., and report at bureau for duty, March 8, 1901.

P. A. Surgeon G. B. Young, upon being relieved by Asst.-Surgeon C. H. Lavinder, to proceed to Louisville, Ky., and assume command of the service, relieving Surgeon H. R. Carter, March 8, 1901.

P. A. Surgeon B. W. Brown, upon being relieved by Surgeon H. R. Carter, to proceed to Evansville, Ind., and assume command of the service, relieving P. A. Surgeon J. H. Oakley, March 8, 1901.

P. A. Surgeon J. A. Nydegger, relieved from duty at Chicago, Ill., and directed to assume command of the Cape Charles quarantine station, relieving Asst.-Surgeon C. W. Wille, March 11, 1901.

Official list of changes date January 17, 1901, amended so that leave of absence granted P. A. Surgeon Nydegger for thirty days shall read: Leave of absence on account of sickness. March 13, 1901.

Asst.-Surgeon H. S. Mathewson, to proceed to Washington, D. C., for examination for promotion. March 8, 1901.

P. A. Surgeon J. H. Oakley, upon being relieved by P. A. Surgeon B. W. Brown, to proceed to Cairo, Ill., and assume command of the service, relieving Asst.-Surgeon J. M. Holt. March 8, 1901.

Asst.-Surgeon C. H. Lavinder, to proceed to Delamare Breakwater and assume command of the service, relieving P. A. Surgeon G. B. Young. March 8, 1901.

Asst.-Surgeon M. H. Foster, granted leave of absence for twenty days from April 1. March 11, 1901.

Asst.-Surgeon W. W. King, to proceed to San Juan, P. R., for special temporary duty. March 8, 1901.

Asst.-Surgeon J. M. Holt, upon being relieved by P. A. Surgeon J. H. Oakley, to report to him for duty. March 11, 1901.

Asst.-Surgeon F. E. Trotter, granted leave of absence for twenty-six days from April 9. March 11, 1901.

Asst.-Surgeon C. W. Wille, upon being relieved by P. A. Surgeon J. A. Nydegger, to report to him for duty. March 11, 1901.

A. A. Surgeon D. E. Dudley, relieved from duty at Havana, Cuba, and assigned to duty in the office of the U. S. Consul at Vera Cruz, Mexico. March 1, 1901.

A. A. Surgeon S. H. Hodgson, relieved from duty at Vera Cruz, Mexico, and assigned to duty in the office of the U. S. Consul at Progreso, Mexico.

A. A. Surgeon A. B., McDowell, granted leave of absence for ten days. March 9, 1901.

Surgeon C. T. Peckham, granted leave of absence on account of sickness, for 20 days from March 9. March 19, 1901.

Surgeon R. M., Woodward, detailed as inspector of unserviceable property in the Hygienic Laboratory, Washington, D. C. March 21, 1901.

P. A. Surgeon J. A. Nydegger, to proceed to Norfolk, Portsmouth and Newport News, Va., on special temporary duty. March 19, 1901.

P. A. Surgeon C. H. Gardner, granted leave of absence for three days from April 4. March 16, 1901.

Asst.-Surgeon J. M. Holt, bureau order of March 8, 1901, directing Asst.-Surgeon Holt to report to P. A. Surgeon J. H. Oakley for duty, amended, and Asst.-Surgeon Holt directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters. March 20, 1901.

A. A. Surgeon W. S. Walkley, granted leave of absence for two days. March 19, 1901.

Hospital Steward C. G. Carlton, to proceed to Mobile, Ala., and report to medical officer in command for temporary duty. March 15, 1901.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on or about March 19, 1901, to examine Asst.-Surgeon H. S. Mathewson to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the Board: Surgeon P. H. Bailhache, chairman; Surgeon G. T. Vaughan; P. A. Surgeon H. D. Geddings, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 23, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

District of Columbia: Washington, March 2-16, 10 cases.
Florida: Jacksonville, March 9-16, 4 cases.
Illinois: Chicago, March 9-16, 8 cases.
Indiana: Terre Haute, Feb. 4-11, 2 cases.
Kansas: Wichita, March 8-16, 15 cases.
Kentucky: Lexington, March 8-16, 1 case.
Louisiana: New Orleans, March 8-16, 14 cases, 4 deaths.
Maryland: Baltimore, March 8-16, 1 case.
Michigan: Bay City, March 8-16, 2 cases; Detroit, March 8-16, 4 cases; West Bay City, March 1-16, 1 case.
Minnesota: Minneapolis, March 2-16, 11 cases: Winona, March 8-16, 26 cases.
Nebraska: Omaha, March 2-9, 5 cases.
New Hampshire: Manchester, March 8-16, 3 cases.
New York: Elmira, March 2-9, 1 case; New York, March 8-16, 37 cases, 6 deaths.
Ohio: Cleveland, March 8-16, 46 cases; Toledo, March 2-16, 3 cases.
Pennsylvania: March 8-16, Erie, 1 case; McKeesport, 3 cases; Pittsburg, 2 cases; Steelton, 5 cases.
Tennessee: March 8-16, Memphis, 20 cases; Nashville, 14 cases.
Utah: Salt Lake City, March 2-16, 97 cases.
Porto Rico: Feb. 8-March 5, Aguas Buenas, 2 cases; Bayamon, 2 cases; Caguas, 2 cases; Ciales, 2 cases; Morovis, 2 cases, Ponce, 98 cases, 1 death; Quebradillas, 4 cases; Rio Piedars, 1 case; San Juan, 7 cases.
Philippines: Manila, Jan. 29-Feb. 9, 11 cases.

SMALLPOX—FOREIGN.

Brazil: Perrambuco, Jan. 17-31, 25 deaths; Rio de Janeiro, Feb. 16-28, 36 deaths.
Canada: Ontario—March 2, Bracebridge, 2 cases; Georgian Bay, prevalent; Orillia, 1 case; Penetanguishine, 1 case; Toronto, 4 cases.
Egypt: Cairo, Feb. 11-25, 3 deaths.
France: Paris, Feb. 8-March 2, 21 deaths.
Great Britain: London, Feb. 23-March 2, 1 case; Glasgow, March 1-8, 46 cases, 12 deaths.
India: Bombay, Feb. 12-19, 7 deaths; Madras, Feb. 9-15, 5 deaths.
Mexico: Tuxpam, Feb. 25-March 4, 1 death.
Russia: Moscow, Feb. 14-23, 4 cases; St. Petersburg, Feb. 16-23, 3 cases; Moscow, Feb. 16-23, 12 cases.
Spain: Barcelona, Jan. 1, March 2, 253 deaths; Coruna, Feb. 23-March 2, 1 death; Valencia, Feb. 8-24, 1 case.

YELLOW FEVER.

Cuba: Havana, March 4-11, 1 case.

CHOLERA.

India: Bombay, Feb. 12-19, 3 deaths; Madras, Feb. 9-16, 12 deaths.
Straits Settlements: Singapore, Jan. 26-Feb. 2, 10 deaths.

PLAGUE.

Africa: Cape Town, Feb. 16-26, 44 cases, 6 deaths.
India: Bombay, Feb. 12-19, 897 deaths.
Philippines: Manila, Jan. 19-Feb. 9, 7 cases, 4 deaths.
Straits Settlements: Singapore, Jan. 26-Feb. 2, 1 death.